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## Comparison Of Motor Fitness Of Rural And Urban High Schoolstudents Of Shivamogga District

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### Abstract

The purpose of the study was to identify the motor fitness of rural and urban students. 40 male students, 20 rural and 20 urban from various schools of Shivamogga district, Karnataka, India were selected as subjects for the study. Execution criteria were the presence of chronic medical condition such as asthma, heart disease or any other condition that would put the subject at risk when performing the Motor Fitness components. The data was collected by use of measurements of height & weight as well as by application of tests like, running, jumping, stepping, situps etc. The data was analyzed with the help of statistical procedure in which arithmetic mean, standard deviation and t - test were employed. The mean age of rural students was 16.01 years, height was 164.40 cm. and the weight was 52.48 kg. On other hand the mean (+S.D.) age of the urban students was 16.32 years, height 164.50cm and weight 54.67kg. Significant difference in the agility ( $t=3.11$ ,  $p<.05$ ) was found between rural and urban students, urban students was found to be greater agility as compared to rural students while comparing speed ability ( $t= 3.26$ ,  $p<.05$ ) significant difference was found between rural & urban students. Urban students incur significantly less speed ability as compare to rural students. Meanwhile, significant difference was found in endurance ability ( $t=5.96$ ,  $p<.05$ ) between rural and urban students. Rural students were found to have got more cardio vascular efficiency as compare to urban students. While comparing explosive strength between rural and urban students, significance difference was found ( $t=6.53$ ,  $p<0.5$ ). Rural students were strongest as compared to their counterpart. Whilst no significant difference in the muscular strength was found between two groups students.

### Introduction:

Motor Fitness is recognized as an important component of sports and it may be important for the performance of functional activities and quality of life (Noreau and Shephard1995; Stewart et al.1994). Low Motor Fitness may result in high physical strain during the performance of activities (Bruinings et al.2007). As a consequence, activity levels may decrease due to fatigue and discomfort, exacerbating low Motor Fitness. Keeping in view the fact that Motor Fitness has important role in sports performance (Sallis et al, 1992) a large number of studies on Motor Fitness have been reported form different countries of the world.

### Materials and Methods:

Subjects: Twenty rural and twenty urban students from various schools of shivamogga district, Karnataka, India were selected as subjects for the study. Who were regularly participating two years in the inter school sports competitions were selected as subject for present study, Exclusion criteria were the presence of chronic medical conditions such as asthma, heart disease or any other condition that would put the subjects at risk when performing the test the subjects were free of smoking, alcohol and caffeine consumption, antioxidant supplementation and drugs. The age, height, agility, endurance, speed, muscular strength, explosive strength of all subjects were measured in school play ground. The data analyzed with the help of statistical procedure in which mean, standard deviation, t-test were used to compare the data.

Selection of Variable and their Criterion Measures: Explosive strength was measured by the standing broad jump, speed was measured by 50 meter dash, endurance was measured by using Harward step test, agility was measured by shuttle run and muscular strength was measured by sit ups all test were conduct according to the AAPHER youth fitness test.

### Results:

The statistical of the results of Motor Fitness components between rural & urban students are shown in table 1 to 5. The mean (+ S.D.) of the age of the rural students was 16.01 (+ 3.11) years, height 164.40 (+ 5.22) cm. weight 52.48 (+ 3.91) kg. On other hand, the mean (+ S.D.) age of the urban students was 16.32 (+ 3.72) years, height 164.50 (+ 8.29) cm. and weight 54.67 (+ 3.76) kg. Table 1 shows statistical comparison of Muscular Strength betweenrural & urban High school students.

Students	No.	Means	S.D.	S.Ed.	t-value
Rural	20	24.85	3.40	0.98	0.60NS
Urban	20	19.70	2.81		

\* Significant at 0.05 level. NS = Not Significant

Table 1 compares the muscular strength of rural and urban students. Results indicate that no significant differences in Muscular strength were found when comparison is made between the rural and urban students.

Table 2 shows statistical comparison of Agility betweenrural & urban High school students.

Students	No.	Means	S.D.	S.Ed.	t-value
Rural	20	10.84	0.90	0.34	3.11*
Urban	20	11.90	1.27		

\* Significant at 0.05 level.

With regard to agility of rural and urban collegiate Students, mean values of 10.84 and 11.90 respectively were observed in Table-2. The obtained  $t=3.11$  indicating that the urban students had greater agility than the rural students.

Table 3 shows statistical comparison of Explosive Strength betweenrural & urban High school students.

Students	No.	Means	S.D.	S.Ed.	t-value
Rural	20	149.88	8.66	0.34	6.53*
Urban	20	134.33	6.22		

\* Significant

Table 3 indicates the existence of statistically significant difference between rural and urban students with respect to Explosive strength .Significant differences was found in explosive strength ( $t=6.53, p<.05$ ).Rural students was found to have greater explosive strength as compared to urban students.

Table 4 shows statistical comparison of Speed betweenrural & urban High school students.

Students	No.	Means	S.D.	S.Ed.	t-value
Rural	20	7.75	0.74	0.19	3.26*
Urban	20	7.13	0.49		

\* Significant

Table 5 gives the statistical comparison of speed ability of rural and urban students. Results indicates significant difference was found ( $t=3.26, p<.05$ ) when comparison is made between two groups. Urban students incur significantly less Speed ability than rural students.

Table 5 shows statistical comparison of Endurance betweenrural & urban High school students.

Students	No.	Means	S.D.	S.Ed.	t-value
Rural	20	88.03	8.12	0.14	6.96*
Urban	20	71.39	6.99		

\*significant

Table 5 depicts the statistical information of endurance ability between rural and urban students. Significant difference were observed in Endurance ( $t=5.95, P<.05$ ) between the rural and urban students. Rural students were found to have got greater endurance ability as compared to urban students.

## Discussion

This study reveals that significant difference were found in agility ( $t=3.11, P< 0.5$ ), speed ( $t=3.26, P<0.5$ ), endurance ( $t=4.0, P<0.5$ ) and explosive strength ( $t=5.00, P<0.5$ ) between rural and urban students. Urban students were found to have got strongest than rural students. This results didn't supported Sandhu (1983) compared rural and urban students of Amritsar district. He was found rural students were stronger than urban students. Tsimeas and Tsigilis (2005) conducted a study on Greek rural students to find out "Does living in urban or rural setting effect aspect of Motor Fitness in children". A similar type of result was obtained in the work of Mehtap and Nihal (2005). Who conducted a study on Motor Fitness in rural children compared with urban children in turkey and found that children living in the urban areas were more inactive and obese than rural children. Urban

students incur significantly low speed ability as compared to rural children. This may be due to mechanization, automation and computerization have minimized the opportunities for vigorous physical activities to cause physical exertion in urban population. The result is supported Uppal and Sareen (2000), Choudhary (1998) and Ray (1979). However rural students were found to have got strong Cardio respiratory efficiency as compared them to urban students The relatively grater Cardio-respiratory of rural students were probably due to rural students engaged in vigorous physical activity like Agriculture and Animal husbandry. Rural students demonstrated significantly greater Explosive strength as compared to urban students. This may be due to the rural life style is more active in nature than the life in urban areas, which produced high level physical and psychological functioning in rural areas.

#### **Conclusion:**

It is found that the rural students were comparatively better than urban students except in Agility ability. Rural students were stronger than urban students in Explosive strength, Speed and Endurance. However urban students are stronger in Agility.

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## Prediction of Anthropometric Health Status through Second to Third and Second to Fourth Digit Ratio: An Analytical Approach

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### Abstract:

The ratio of index finger length to ring finger length is called the "2D:4D digit ratio" and the ratio of index finger length to middle finger length is called the "2D:3D digit ratio." Several studies reported that digit ratio 2D:4D can predict the different psycho-physical and social behaviour of human being better than 2D:3D digit ratio. Present study was conducted to find out the relationship between 2D:4D digit ratio and 2D:3D digit ratio with selected anthropometric health status among young adult people. A total of 102 male and female within the age group of 21 to 30 years were selected randomly as subjects for the present study. Length of second and fourth fingers and second to third finger were measured to calculate digit ratios (2D:4D and 2D:3D). Health status was assessed by calculating Body Mass Index (BMI), Waist Hip Ratio (WHR), sum of three skin folds (sum of 3 Sk) and Percent body Fat (PBF). All variables were measured by standard tools and procedure. Mean and standard deviation were calculated as descriptive statistics and correlation of coefficient (r) was computed by Pearson Product Moment method. Only 0.05 level of confidence was considered in this study. Result shown that except the mean difference of 2D:4D digit ratio and BMI for male and female all the variables selected in this study were statistically significant ( $P < 0.05$ ). Study also found that digit ratio 2D:4D and 2D:3D have negative correlation with BMI, WHR and PBF for both male and female but the relationship not statistically significant ( $P > 0.05$ ). Study also revealed that the digit ratio 2D:4D and 2D:3D have positive correlation with sum of three skin folds (Sum 3 Sk) for both male and female but these relationship were also not statistically significant ( $P > 0.05$ ). From the above findings it was concluded that 2D:4D and 2D:3D digit ratio could not be used as good indicator of anthropometric health in young adult male and female. Further study is needed for taking concrete inference about the use of 2D:4D and 2D:3D digit ratio as predictor of health status in young adult male and female. Key words: Digit Ratio (2D:4D), Digit Ratio (2D:3D), Health status, Young adult people.

### Introduction

The digit ratio is the ratio of the lengths of different digits or fingers typically measured from the midpoint of bottom crease where the finger joins the hand to the tip of the finger.<sup>[1]</sup> The 2D:4D ratio is calculated by dividing the length of the index finger of the right hand by the length of the ring finger of the right hand. The ratio of index finger length to middle finger length is called the "2D:3D digit ratio. Study reported that for males, the index finger is generally about 96 percent of the length of the ring finger, which gives an average digit ratio for males of 0.96 and women generally have a digit ratio of about 1.00. The 2D:3D ratio is calculated by dividing the length of the index finger of the right hand by the length of the middle finger of the right hand. Most of the study deals with the 2D:4D digit ratio as per literature available. It was noted in the scientific literature several times through the late 1800s that the men have lower digit ratio (shorter index fingers than ring fingers) than do women<sup>[2][3]</sup>. In 1930 it was proved with the statistically significant sex difference in a sample of 201 men and 109 women<sup>[4]</sup>.

In 1983 Wilson conducted a study to examine the correlation between assertiveness in women and their digit ratio and that was the first study which conducted to reveal the correlation between digit ratio and a psychological trait within members of the same sex.<sup>[5]</sup> Manning et. al. (1998) conducted a study on digit ratio in children and reported that the sex difference in digit ratios was present in two-year-old children. They have also shown that 2D:4D ratios vary greatly between different ethnic groups.<sup>[6][7]</sup> This variation is far larger than the differences between sexes; in Manning's words, "There's more difference between a Pole and a Finn, than a man and a woman."<sup>[8]</sup> Present study was conducted to find out the relationship between 2D:4D and 2D:3D digit ratio with health status among young adult male and female.

## Methodology

**Subjects:** A total of 102 male and female within the age group of 21 to 30 years were selected randomly as subjects for the present study. Among them 50 were female and 52 were male.

**CRITERION MEASURE :** Criterion measures in this study were Length of Index finger (2D), Middle finger (3D) and Ring finger (4D); Body Mass Index (BMI), Weight Hip Ratio (WHR), Sum of three skin folds (3SK) and Body Fat Percentage (PBF) as anthropometric health status.

**Instruments and Tools used :** Instruments and tools were used to collect data in this study were small sliding breadth caliper, Stedimeter, Weigh machine, Steel tape, Skin fold caliper.

**Design of the study and Statistical Procedure:** Mean and stander deviation (SD) were considered for descriptive statistics for each variable and correlation coefficient was calculated by Person Product Moment method. Significance level of 0.05 was considered for the present study. All statistical calculations were done by using standard statistical software.

## Result and Discussion

Mean and standard deviation of 2D:4D and 2D:3D digit ratio and different anthropometric health variables have been presented in Table-1. Significance of mean difference for each variable between two genders was also analyzed by t-test and result have presented in same tables. The correlation of coefficient between 2D:4D with different anthropometric health variables have presented in Table-2 and the correlation of coefficient between 2D:3D with different anthropometric health variables have presented in Table-3.

Table-1: Calculation of mean and SD of 2D:4D, 3D:4D and selected anthropometric health Parameters of male and female subjects

Sl No	Variables	Male gender		Female gender		T-value
		Mean	SD	Mean	SD	
1	2D:4D	0.97	0.7	0.98	0.06	1.54
2	2D:3D	0.89	0.06	0.92	0.04	3.00*
3	BMI (Kg/m <sup>2</sup> )	20.35	2.86	20.96	2.81	1.09
4	WHR	0.84	0.08	0.77	0.09	5.31*
5	PBF	10.25	5.16	19.52	4.74	6.41*
6	Sum of 3 SK (mm)	31.44	6.31	40.7	16.05	3.81*

\*Significant at both 0.05 and 0.01 level.

Table-2: Calculation of r-value between 2D:4D with Selected anthropometric health variables of male and female subjects

Gender	BMI	WHR	PBF	Sum of 3 Sk
Male	-0.03	-0.02	-0.07	0.08
Female	-0.01	-0.03	-0.19	0.19

Table-3: Calculation of r-value between 3D:4D with Selected anthropometric health variables of male and female subjects

Gender	BMI	WHR	PBF	Sum of 3 Sk
Male	-0.03	-0.02	-0.07	0.13
Female	-0.01	-0.03	-0.19	0.203

Table-1 revealed that except 2D:4D and BMI all mean values for selected variables were significantly different for male and female. It has cleared from the results that 2D:3D, WHR and PBF and sum of 3SK were also sexually dimorphic. Similar findings have been reported by other studies <sup>[2][3][4][6]</sup>.

Table-2 revealed that digit ratio (2D:4D) had negative correlation with BMI, WHR and PBF health variables in this study. Table-2 has also shown that 2D:4D had positive correlation with sum of 3 SK for both male and female. Table-2 also revealed that all the coefficient of correlations (r-values) were found statistically not significant for both male and female.

Table-3 revealed that digit ratio (2D:3D) had also negative correlation with BMI, WHR and PBF health variables in this study. This table has also shown that 2D:3D had positive correlation with sum of 3 SK for both male and female. Table-3 also revealed that all the coefficient of correlations (r-values) were found statistically insignificant for both male and female.

Some authors suggested that 2D:4D-digit ratio correlates with health, behavior, and even sexuality. Among males with low digit ratio are more fertile, more aggressive and assertive. They have higher life time reproductive success, higher musical and sports aptitude etc. Males with high digit ratio have higher risk of early heart disease, increased risk for depression<sup>[10]</sup>, schizophrenia<sup>[11]</sup> Anxiety<sup>[12]</sup> and reduced performance in sports.<sup>[13]</sup> Men with low (indicating high testosterone) and women with high (indicating high estrogen) 2D:4D ratios express greater levels of facial symmetry.<sup>[9]</sup> Female with high digit ratio have higher lifetime reproductive success and higher risk of breast cancer and female with low digit ratio are more aggressive and assertive in nature. Several study reported that Personality  $\psi$  traits are correlated with digit ratio, higher being more feminized.<sup>[9][13][15]</sup> In other side Das and Sil (2015) found that 2D:4D digit ratio is sexually dimorphic but could not be used as good indicator of anthropometric health and motor abilities in middle aged people.<sup>[16]</sup> Sil (2015) reported insignificant correlation between 2D:4D with BMI (r=0.104) and PBF (r=0.052) in his study and thus concluded that the 2D:4D was not sufficient to be used as a good pointer of health status in adult male.<sup>[17]</sup> Present study neither found such concrete correlation between 2D:4D with selected anthropometric health variables nor found such significant correlation ship between health variables with 2D:3D digit ratio.

## Conclusion

Present study has found negative correlation and positive correlation between 2D:4D and 2D:3D with selected health variables but that was not sufficient to be used as a good indicator of health status for young adult people. Number of fewer samples may be the cause of the present findings. Further study is needed for taking concrete inference about the use of 2D:4D and 2D:3D as predictor of health status among young adult people.

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## Effect Of Yogic Practices On Selected Physiological Variables Of Inter Collegiate Kabaddi Players

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### Abstract

The purpose of this study was to find out the effect of yogic practices on selected physical and physiological variables of inter collegiate kabaddi players. The study was confined to forty men kabaddi players from Ramakrishna Mission Vivekananda University, Coimbatore, Tamilnadu. Their age ranged from 18 to 25 years. The selected subjects were divided into two group's namely experimental group and control group. Each group has twenty players. The experimental group was treated with yogic training for one hour per day for five days a week for a period of eight weeks. The subjects were tested on selected physical and physiological variables namely flexibility, Systolic blood pressure and Diastolic blood pressure. Before the training was administered (pre-test), and after the completion of the six weeks training (post-test) the readings on variables were recorded carefully in their respective units. The collected data for pre test and post test were treated with paired t ratio appropriate statistical analysis to test objective of the present study. It was considered as the most appropriate statistical technique for the present study. Key words: Yogic Training, physical and physiological variables.

### Introduction

The world of games and sports has crossed many milestones, as a result of different achievements in general and their application in the field of sports in particular. Scientific investigation into performance of sportsman has been playing an increasingly importance role to attain excellence of performance in different sports.

### Tools And Techniques:

Variables	Name of the Test	Unit of measurement
Systolic blood pressure	Sphygmomanometer	mmHg
Diastolic blood pressure	Sphygmomanometer	mmHg

Table - 4.1: Computation Of 'T' Ratio Between The Pre Test And Post Test Means Of Systolic Blood Pressure Of Experiment Group And Control Group

S. No	Variables	Mean diff	SD	$\sigma$ DM	't' ratio
4	Systolic Blood Pressure	Exp: 4.20	Exp: $\pm 2.028$	Exp: 0.45364	9.258
		Con: 0.350	Con: $\pm 1.906$	Con: 0.42628	0.821

\*Significant at 0.05 level

An examination of table 4.5 indicates that the obtained 't' ratios for Systolic Blood Pressure of experimental group was 9.258. The obtained 't' ratio on Systolic Blood Pressure was found to be greater than the required table value of 2.09 at 0.05 level of significance for 19 degrees of freedom. So it was found to be significant. The obtained 't' ratios for Systolic Blood Pressure of control group was 0.821.

The obtained 't' ratio on Systolic Blood Pressure was not found to be greater than the required table value of 2.09 at 0.05 level of significance for 19 degrees of freedom. So it was not found to be

statistically significant. The mean scores of Systolic Blood Pressure of experimental group and control group were shown graphically in figure 4.1

FIGURE – 4.1 Bar Diagram Showing The Pre Mean And Post Mean Of Systolic Blood Pressure Of Experimental Group And Control Group

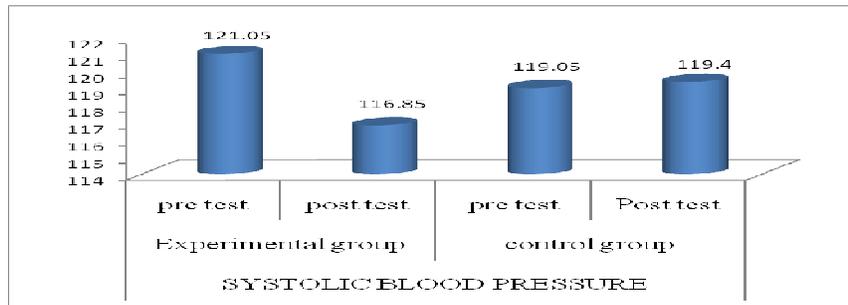


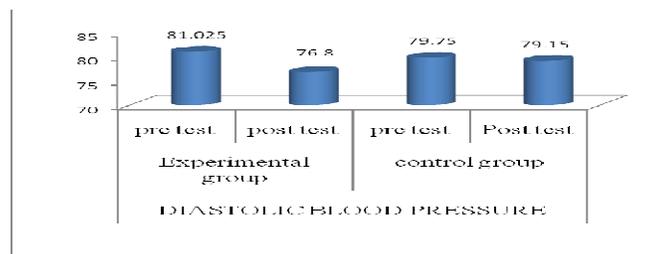
Table - 4.2: Computation Of 'T' Ratio Between The Pre Test And Post Test Means Of Diastolic Blood Pressure Of Experimental Group And Control Group

S. No	Variables	Mean diff	SD	$\sigma$ DM	't' ratio
5	Diastolic Blood Pressure	Exp: 4.225	Exp: $\pm 2.148$	Exp: 0.48051	8.793
		Con: 0.600	Con: $\pm 1.465$	Con: 0.32767	1.831

\*Significant at 0.05 level

An examination of table 4.2 indicates that the obtained 't' ratios for Diastolic Blood Pressure of experimental group was 8.793. So it was found to be significant. An examination of table 4.2 indicates that the obtained paired 't' ratios for Diastolic Blood Pressure of control group was 1.831. So it was not found to be significant. The mean scores of Diastolic Blood Pressure of experimental group and control group were shown Graphically In Figure 4.2.

Figure - 4.2: Bar Diagram Showing The Pre Mean And Post Mean Of Diastolic Blood Pressure Of Experimental Group And Control Group



**Conclusions:** It was concluded that the yogic practices group made a significant changes on selected physical variable namely flexibility from base line to post test. It was also concluded that the yogic practices group made a significant changes on selected physiological variables namely systolic blood pressure and diastolic blood pressure from base line to post test. The control group did not show any significant difference in this study

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## The Effects Of Imagery On Badminton Skill Performance

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### Abstract

The main purpose of this study is to investigate the effectiveness of external imagery on badminton skill performance. Imagery is a widely used psychological skill which demonstrates that it can enhance performance. Forty undergraduate students of University of Malaya, Kuala Lumpur ( $n=40$ , M age =  $19 \pm 1.44$  years) were divided into Experimental and Control group. The experimental group underwent external imagery intervention for 8 weeks, 2 times a week. Participants were required to perform French Short Serve (Scott et al., 1941), badminton skill test before and after the intervention. An independent-samples t-test was conducted to compare between experimental and control group. There was no significant difference in the scores between experimental ( $M=57.65$ ,  $SD=9.38$ ) and control ( $M=54.50$ ,  $SD=14.15$ ) groups;  $t(38) = .86$ ,  $p = .4$ . Overall though, the scores of experimental group did increase between pre- and post-intervention and this indicates that imagery has a positive influence on badminton skill performance.

Keywords: Mental Imagery, Badminton Short Serves

### Introduction

Imagery is a powerful mental technique that has been used extensively among researchers, sport psychology consultants, coaches and athletes (Taylor & Wilson, 2005). Presently, most practitioners use the broader term mental imagery to describe structured mental practice techniques to create and re-create an experience in the mind (Vealey & Greenleaf, 2001). In the context of sports, imagery is considered as the neural generation or regeneration of parts of a brain representation/ neural network involving primarily top-down sensorial, perceptual and affective characteristics, that are primarily under conscious control of the imager and which may occur in the absence of perceptual afference functionally equivalent to the actual sporting experience (Holmes & Calmels, 2008). Imagery has been long recognised performance-enhancing strategy and widely used in applied field, particularly sport, dance and exercise psychology (Cumming & Ramsey, 2009; Murphy, et al., 2008; Weinberg, 2008). The significance of whether imagery training could enhance motor skill has been examined in various studies (Driskell et al., 1994). Although the results have varied across studies, the majority studies showed imagery training could facilitate sport-performance improvement (Vealey & Walter, 1993; Konssert & Chandler, 2007). Mental imagery can be used to enhance sport performance in various sport, both elite and non-elite athletes.

Mahoney & Avenier (1977) categorized mental imagery into two perspective; internal imagery where the imager is looking out through his or her own eyes while performing the action and external imagery where the imager is watching him or herself performing the action from an observer's position, as if watching him or herself on television. Cox (1998) expressed internal imagery is considered to be kinaesthetic in nature and external imagery is considered to be primarily visual in nature. Cox (2002) proposed that internal imagery is superior to external imagery for performance enhancement. Callow & Hardy (2004) reported it is because of its close relationship with kinaesthetic sensation. However, more recent researches suggested that kinaesthetic imagery may have a stronger association with external imagery than internal imagery (Callow & Hardy, 2004).

Badminton is a very popular racquet sport that is growing steadily among various nationalities and among people of all ages (Sakurai & Ohtsuki, 2000). Badminton claimed to be the world's fastest racket sport, with the shuttle velocity following a smash being over  $100 \text{ m}\cdot\text{s}^{-1}$  and average shuttle velocity during match-play ranging from  $50$  to  $75 \text{ m}\cdot\text{s}^{-1}$  (Gowitzke & Waddell, 1978).

Imagery is a mental skill that has been widely investigated within sport psychology over last several decades (Weinberg, 2008). Imagery intervention has shown to enhance skilled athletes (Post et al., 2010; Smith et al., 2007). However, the impact of imagery on novices is less known (Post et al., 2015). These lead us to question whether imagery is a performance enhancer to badminton skill performance in novices. Hence, the major purpose of this study is to investigate the effectiveness of imagery on

badminton skills performance. Thus, the present study is to investigate the effects of imagery on badminton skill performance.

### Methodology

Participants were 40 undergraduate students from University of Malaya, Kuala Lumpur. Participants ranged in age between 20-23 years old (mean age 20.75; SD 1.45 years). They were 26 males and 14 females. Inclusive criteria for this study were that the participants had to be recreational badminton players that plays badminton once a week. Twelve participants dropped out from the study due to injuries and tight study schedule. The consent of the participants were obtained after the recruitment they were randomly assigned to two groups; an experimental group and a control group. This study was conducted at Sports Centre, University of Malaya. The participation was voluntary and the participants could drop out at any time. Participants were then divided randomly to 2 groups which is a control group and an experimental group. Participants were briefed on nature and purpose of study. Researcher reviewed the backhand short serve test, French Short Serve (Scott et al., 1941) and how the scoring simple works

### Procedure

This study consisted of three main components: (I) pre-test, (II) intervention (III) post-test

I. Pre-test. This study began with pre-test of backhand short serve test, French short serve (Scott et al., 1941). For an overview of the set-up for the pre-test, see Figure 3.1. Participants were asked to serve 20 serves. Scores of pre-test were recorded.

II. Intervention. The second part of the study was the intervention phase. Once the participant's pre-testing data were done, they were randomly assigned to one of two groups: either experimental group or control group. The length of intervention was based on previous studies that to learn a technique, it usually takes at least 8 weeks (Kanji, 1997). Hence, in this study, the intervention training consist of 16 sessions, two session a week over eight weeks. Even though, the time of this intervention was short, similar time frames have been successfully in past research (Chaiwanichsiri et al., 2006). A two minutes fifty- two seconds external imagery intervention script which were read to the participants, minutes. This duration of imagery intervention is proposed by Etnier & Landers (1996) which in their study, they found that individuals in groups that were instructed to use mental practice for either 1min to 3min improved task performance more than those who practiced for 5 min-7 min or did no mental practice. Participants in the experimental group were given external intervention training followed by game play which the condition of using backhand short serve for service, meanwhile the control group were asked to only have game play of doubles for an hour with the condition of using backhand short serve for service.

III. Post-test. The third and last part of the study was the post-test. The set-up and testing protocol were the same as during pre-test. Each serve scores were recorded and the data collections were analyzed.

### Badminton Skills Test

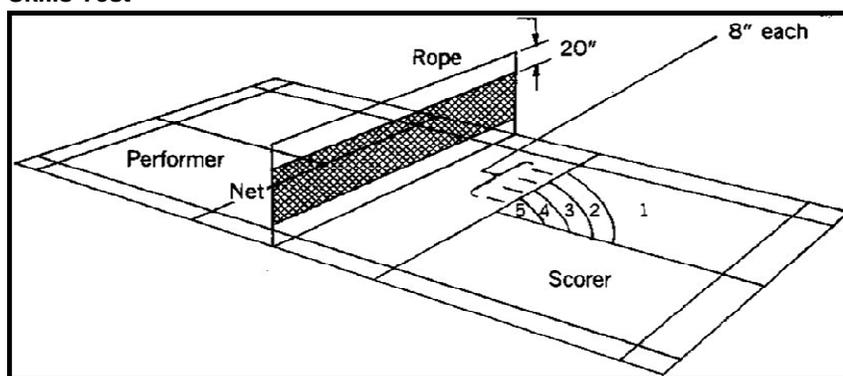


Figure 3.1 Court markings for French Short Serve Test

To measure the accuracy of the service, French Short Serve (Scott et al., 1941) was employed in this study. The purpose of this test is to evaluate the ability to do an accurate, low short-serve in badminton. A validity of .66 was reported with tournament ranking as the criterion measure. Meanwhile, reliability coefficients ranging from .51 to .89 have been reported on different occasions by using the odd-even approach followed by the Spearman-Brown Prophecy Formula. Participants were asked to do 20 shuttlecocks for each testing stations.

Each testing position is as shown in Figure 3.1. A rope should be extended from standard to standard 2 inches above and parallel to the net. Four 2-inch lines in the form of an arc are placed from the midpoint of the intersection of the short service line and the center service line. The first arc line is 22 inches from the mid-point; the remaining three lines are then placed at 8 inch increments. The distances from the midpoint for the four lines are 22, 30, 38 and 46 inches. Each measurement includes the width of 2-inch line. Zones are scored 1 through 5 with 5 being the smallest and most difficult zone to hit.

The scoring zones are given point values as shown in Figure 3.1. Each serve is given the point value of the area in which it first lands,. Serves that passes over the extended 20-inch rope or fall out of bounds count one. Shuttlecocks that lands on a division line get the higher value. Shuttlecock that are illegally served or hit the rope do not count, but the server is allowed to re-serve. The final score is the total for the 20 serves. A perfect score is 100 points

### Imagery Script

The imagery script was based on information to imagine backhand short serve according to an external imagery perspective. Participants employed this imagery script at the same venue where testing were done. Participants were told to imagine as vividly like actual playing task. Participants were instructed to image themselves performing backhand serves efficiently and the outcome is just what they wanted from external perspective. Only the experimental group were given the external imagery script. The script was given before the physical practice begin. For the first 3 sessions, the script was read to them and for the other sessions, a recorded version of script were given to the participants.

### RESULTS

As shown in Table 1, the comparison of data on backhand short serve scores between pre-test and post-test. From the results of Pre-test, both experimental and control group scores were normally distributed. Levene's test of homogeneity of variance was employed and confirmed that the homogeneity of variances were statistically equivalent. Hence, any significant differences in comparison of data on backhand short serves is definitely due to the intervention. A paired-samples t-test was conducted to assess whether external imagery intervention had an impact on backhand short serve. There was no statistically significant differences on backhand short serve scores on post-test for experimental group (M= 57.65, SD= 9.39) compared to pre-test (M= 54.50, SD= 14.15) ( $t(19) = -1.616, p = .123$ ). The mean increase in scores was 3.15 with a 95% confidence interval ranging from -7.231 to .931.

Results ( $t = -1.616, p = .123$ ) indicated that external imagery intervention improves backhand short serve. In this data set, it improved scores, on average, by approximately 3 points. An independent-samples t-test was conducted to compare between experimental and control group. There was no significant difference in the scores between experimental (M=57.65, SD=9.39) and control (M=54.50, SD=14.15) groups;  $t(38) = .86, p = .4$ .

Table 1: Comparison of Backhand Short Serve between Pre-test and Post-test

Group	N	Mean		SD	
		Pre	Post	Pre	Post
Experimental	20	54.50	57.65	14.15	9.39
Control	20	54.65	54.25	16.10	15.09

### Discussion

The main purpose of this study was to investigate whether mental imagery would enhance badminton skill performance specifically on backhand short serve after eight weeks of intervention. The control group, that maintained their regular match play program, showed a slight decrease on badminton skill performance scores. However, the experimental group showed positive improvement on badminton skill performance, although no increase was statistically significant. The control group, that maintained their regular match play program, showed a slight decrease on badminton skill performance scores. However, the experimental group showed positive improvement on badminton skill performance,

although no increase was statistically significant. We observed no significant differences in backhand short serve scores after the intervention. One of the possible factors is the limited length of the intervention (8 weeks). These results confirmed that there was improvement in the scores of badminton skill performance, therefore, it is predicted that longer duration of intervention might lead to further improvement in the scores. Longer term studies are needed to address this issue. Besides, individual differences are an important factor that has to be taken into account when explaining performance effects from imagery training. According to Gottlieb et al. (1998), individual differences are determined by genetic activity, neural activity and behaviour together with environmental factors such as physical, social and cultural. Martinet et al. (1999) also reported that imagery can be used by everyone but different individuals have different abilities to imagine. It has been proven that imagery is associated with sports performance and also that high confident athletes, who in addition were associated with being top-level athletes, tend to have a higher ability to perform imagery (Moritz et al., 1996). In other words, more successful athletes reported to have greater vividness of movement images (Roberts et al., 2008). Therefore, participants in this study were recreational players, hence, this might probably be the factor that affects the outcome of the study.

Previous research suggested that if an athlete has a good imagery ability, the imagery is more likely to have greater performance effects compared to if the athlete has low imagery ability (Hall, 1998; Martin et al., 1999). Considering these findings, it appears that there is a relationship between the use of imagery and imagery ability, thus there is a possibility to improve your imagery skill (Rodgers et al., 1991; Vadocz et al., 1997). According to Hall (2001), imagery is a collection of skills that are modifiable with training and experience rather than simply an undifferentiated fixed ability. Therefore, in order to better understand the effects of external imagery, future research should have limitations to participants with high imagery ability or those with low imagery ability should first improve their imagery ability and then only be able to use the imagery to improve performance. Another possible explanation for a negative outcome of this study could be that external imagery is more effective as a motivational factor, meanwhile, internal imagery is more beneficial as a performer enhancer (Smith, 1987). Hence, the outcome of this study might be affected as external imagery is being used in this study.

In conclusion, this current study still produced very knowledgeable findings. With these caveats in mind, in summary from this study is that imagery can improve backhand short serve in badminton skill performance.

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## **The Relationship Between Sport Leadership Style(Transformational & Transactional) And Employee Job Satisfaction Study Of Federal And Addis Ababa Sport Organizational Management Setting In Ethiopia.**

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### **Abstract**

Leadership and its study of this concept has emerged in the era of civilization. Leadership is a practice by which one personality motivates or influences others to achieve organization goals. Three points in leadership definition must be emphasized. First, the process of leadership must involve two participants; leader and followers. Second, leadership evokes intentional act on the side of follower. Third, leader gives direction to his follower to attain goals. The concept of leadership has changed over time. Effective leadership always plays an important role in the growth and better performance of the organization. The main objective of this research has been conducted to determine that does leadership styles (transformational and transactional leadership style ) have an impact on organizational commitment and employee job satisfaction that serve in different sport organization at federal and Addis Ababa in Ethiopia . The subject of the study was all male and female federal sport commission office employees and managers of federal and Addis Ababa sport commission in various sport disciplines. The instruments for the research were : Multiple Leadership Questionnaire (MLQ) developed by Bass and Avolio(2004) ) addressed the most important aspects of leadership styles(Transformational and Transactional) i.e For transformational leadership style 1)Idealized influence(II),2)Inspirational motivation(IM),3)Intellectual stimulation(IS) ,4)Individual consideration (IC), and for Transactional leadership style 1)Management by –Exception (MBE),2)Contingent reward(CR), 3)Laissez-faire leadership (LF), Employee Job satisfaction Questionnaire(JSS) is developed by Spector( 1997) addressed the most important aspects of Job satisfaction under nine dimension:1)Pay,2)Promotion,3)Supervision4)Frings benefit , 5)Contingent reward ,6)Operating conditions ,7)Coworkers 8)Nature of work and, 9)Communication. Demographic information another part of questionnaires in order to get relevant information about the worker job position ,age , gender, work experience etc.

**Key words:** Leadership style,transformational,transactional , job satisfaction

### **Introduction**

The importance of leadership style has long been a subject of much debate and contentious discussion. The word “leadership” has numerous definitions, depending on the perspective of the educator (Stogdill, 1974). In the past 20 years alone, a multitude of publications has been presented for study on the subject of leadership. Thousands of essays, research reports, and other works have provided a broad base of thought -provoking and often conflicting ideas about organizational leadership (Birnbaum, 1989).

An organization is a social set up, which has a boundary that separates it from its environment, pursues its own collective goals, and controls its own performance (Hicks and Gullet, 1975). In a formal organization, interactions are rationally coordinated and directed through time on a continuous basis. The person at the helm of affairs is usually the leader.

The sustained performance improvements of an organization depends on its workforce, job satisfaction and organizational commitment . Employees job satisfaction enhances their motivation, performance and reduces absenteeism and turnover . Job satisfaction is an employees attitude about his or her job and the organization in which she/he performs the job. Employee job satisfaction is correlated with received salaries, benefits, recognition, promotion, co-workers and management

support, working conditions, type of work, job security, leadership style of managers, and demographic characteristics such as gender, marital status, educational level, age, work tenure, and number of children .

Some researchers argued that leadership has an identifiable set of skills and practices that is available to all people (Kouzes & Posner, 2007). They explained leadership as a relationship between those who want to lead and those who decide to follow. Yukl and Van Fleet (1992) provided a more elaborate definition describing leadership as a process of influencing the task objectives and strategies of a group or organization, influencing group maintenance and identification, and influencing the culture of organizations. Leadership can also be defined in terms of the focus for group process, personality and its effects, a behavior or act, a form of persuasion, an emerging effect of interaction, a differentiated role, and the initiation of structure (Bass, 1990).

Burns (1978) and Bass (1985) largely divided leadership into transactional and transformational leadership. Burns (1978) mentioned transactional and transformational leadership as being ends of a continuum but Bass (1985) saw them as separate in that a leader can be both transactional and transformational. Burns (1978) explained that transactional leadership involves the leader in some form of transaction such as rewards like more pay, recognition, promotion, own self-interests and efficient results with subordinates. In contrast, Bass and Avolio (1990) mentioned that transformational leaders increase their subordinates' confidence and enhance awareness of selected goals and how they may be obtained. They also inspire followers to look their team interests more than personal interests and seek to satisfy such higher-level needs as self-actualization.

More specifically in sport, Chelladurai and Riemer (1998) mentioned that leadership research in sport has been sparse and sporadic. In fact, the majority of leadership research in sport has focused on coaches because they are typically the one responsible for making final decisions regarding significant team matters. In 1994, Weese (1994) recognized that leadership had become the most popular subject in the Sport organization/fitness industries. Weese (1994) found out there were about 7,500 citations on leadership in Bass and Stogdill's Handbook of Leadership (1990). The importance of effective leadership has been cited by athletes and coaches as a vital component to achievement and athlete satisfaction (Chelladurai & Riemer, 1998). They argued that, up to that point, most sport leadership research focused on coaching effectiveness by identifying their personality traits, behavioral attributes, and situational determinants. Yukl, (1989) pointed out that, the focus of most leadership research has been on transactional and transformational leadership.

#### **Transactional Vs Transformational Leadership**

The study of leadership has been evolving through several phases. It began with the trait approach in the 1930s, followed by behavioural approach in the 1950s, and continued with the situational/contingency approach in the 1970s (Bass, 2008).

Transactional and transformational leadership theories have drawn attention most recently. The two theories are regarded as "new leadership" perspective which is described as affecting "followers in ways that are quantitatively greater and qualitatively different than the effects specified in past theories" (Shamir, House, & Arthur, 1993, p.1). There are some differences between the two theories.

Burns (1978) said transactional leadership is based on a leader-subordinate exchange relationship where the subordinate is rewarded in return for compliance with the leader's expectations. The problem with this leadership style is that even though there exists relationships between leader and followers, it does not unite the "leaders and followers together in a mutual and continuing pursuit of a higher purpose" . which could be the reason why the achievement of the national representative team had not been very successful before hid dink. They were regarded more as followers or parts which prohibits the motive of the team members to do better.

Transformational leadership is defined as "the process of influencing major changes in attitudes and assumptions of organizational members and building commitment for the organizations' mission and objectives" (Yukl, 1989, p. 204).

Different from transactional leaders, transformational leaders appeal to higher ideals, which make followers feel included and supported. Thus, followers are expected to perform beyond expectations and maximize their performance for the development of the organization (Bass, 1985).

#### **Job Satisfaction**

Job satisfaction is determined by factors such as goal setting, job design, demographic profile, rewards, leadership and individual different (Griffin& Bateman, 1986 ).

The notion that satisfied employees make a difference was derived from what was termed the "thried industrial revolution", which began with the haw home studies of the 1930s calling for the humanization of the work place. Designing "enriched " jobs that created employee satisfaction, as opposed to providing only a day's pay for a day's work, became part of the humanization of the workplace. This development was based on the premise that "the workforce ensures long- term

productivity if it well cared for” and presupposed the desirability of having satisfied employees (Bruce & Blackburn, 1992).

Organizations are grappling with a new organizational climate, with a need for improved productivity and performance. These changes have impacted on employee perceptions and morale. The need for employee satisfaction has become paramount to organizations in order to survive. It is now universally accepted that motivated and committed employees contribute significantly to and determine organizational success ( Hofmeyr, 1997).

The supervisor plays a key role in the satisfaction and well- being of subordinates. Organizations need to take the idea of a ‘ supervisor’ or ‘manager’ more seriously, as someone who gives regular feedback and recognition, supports and develops subordinates and builds team work (Hofmeyr, 1997 ).

According to Thierry ( 1998), there are three approaches to satisfaction.

**I. Satisfaction as the result of behavior.** This reflects people’s evaluation of the outcomes produced in relation to needs, motives, values, or goals that are important to them.

**II. Satisfaction as a component of the controlling and regulating system.** This emphasizes the extent to which the evaluation of the results causes the introduction of changes. Peoples who are not satisfied with what they receive are motivated to go in search of possible improvements. On the other hand, if people are satisfied, they will strive to repeat the behavior unless other motives become more dominate.

**III. Satisfaction as a cause of behavior.** This emphasizes behavior that arises as a result of dis satisfaction. People who are dissatisfied with the outcomes produced and do not consider themselves capable of altering them, are more likely to strive for outcomes outside work or possibly in another organization. By contrast, if people are happy with how much they can learn from their work, their feeling of involvement increase.

Employees and managers may have different reasons for wanting organizational conditions that foster job satisfaction. Today’s employees are concerned with life values, fulfillment, as sense of wholeness, love, purpose, contribution and meaning. Just as the organization expects optimum performance from its workers, employees have come to expect job satisfaction as a right (Smith, 1992)

#### **THE SAMPLE**

These research is mainly focus on federal and Addis Ababa administrative sport organization. Inorder to achieve a census study, an attempt was made to include all federal and Addis Ababa sport organization leaders and employees in the research. A census is a study that includes the whole population (Leedy, 1993). Personal visits and observation were also made to as many sport organizations as economically viable, in an attempt to get a census response. However, a lack response (return) from rater respondents (see sub-section 6.4.1) of 23.6% of the sport organizations employees and leaders resulted in 69.7% of raters from federal and Addis Ababa administration sport organization being included in the study.

The sample of 76.4% or 185 out of potentially 242 employee respondents and 0.93% or 14 out of potentially 15 leader respondents is considered sufficient to represent the overall population, in terms of the requirements of the research (Leedy, 1993). It is therefore possible to draw general conclusions about the total population from the sample achieved. In other words, the employees and leaders that were included in the study are considered sufficient to represent sport leadership behaviour and its effect on employee’s organizational commitment and job satisfaction at federal and Addis Ababa administration sport organization in Ethiopia.

#### **Research Instrument And Measurement Scale**

This empirical study to test the hypotheses was developed in chapter four of this study. Data for this study was collected from Addis Ababa and federal sport organizations by a survey questionnaire. In the domain of effect of leadership behaviour and job satisfaction, many researchers have used survey instruments to collect the data. Among them are Pruijn, G and Boucher, R (1990) The relationship of transformational and transactional leadership to the organizational effectiveness, Snyder, C (1990) The effect of leader behaviour and organizational climate on intercollegiate coaches, Sisay, M (2012) Football coach leadership style and Players commitment, Adnan Riaz and Mubarak hussan (2010) Role of transformational and transactional leadership on job satisfaction and career satisfaction.

All these researchers applied survey questionnaires to collect the data which is an efficient way for collecting data for specific variables of interest. According to Verschuren and Doorewaard (1999), the survey’s aim is to find out what a selected group of individuals think, feel, or do. However, this research study is concerned to know the employee attitudes, feeling and satisfaction for the result of his/her leader’s leadership style that will practice within the given sport organization. Actually, attitudes are influenced by beliefs, which can involve asking respondents about what they feel about a particular object. In survey questionnaires, a Likert scale is commonly used to measure attitudes

(Miller and Brewer, 2003). According to Oppenheim (1992, p-200), the Likert scale was adopted in the survey partly because the reliability of Likert scales tends to be good and partly because of the greater range of answers permitted to respondents. By applying a survey questionnaire, a large amount of people can be involved in the research because it is an easy and economical tool with which to collect the data. By applying the same precedent, this study applied a survey questionnaire to collect data. The discussion regarding survey questionnaires is given in the following section.

### **Developing A Survey Questionnaire**

The process of developing a survey questionnaire is based on what kind of information is needed. In order to examine the hypotheses developed for this research, a survey questionnaire was proposed for data collection. A survey questionnaire can provide insight into individual perceptions and attitudes as well as organisational policies and practices (Baruch and Holtom, 2008, p-1140). Thus, for this research, a survey questionnaire has been adapted for data collection which possesses many options of Likert scaling for the variety of choice for the respondent. This research focuses on the relationship of sport leadership style and employee job satisfaction. The researcher tries to understand the attitude, feeling and job satisfaction of employees as a result of the implementation of leadership style within the given sport organization. An individual's perception can be developed by fulfilling basic needs such that psychological and financial. In this regard, a conceptual model has been developed by employee job satisfaction. This research focuses on first, employee job satisfaction such that received salaries, benefits, recognition, promotion, co-workers and management support, working conditions, type of work, job security, finally, leadership style of managers i.e transformational such that Idealized influence (II), Inspirational motivation (IM), Intellectual stimulation (IS), Individual consideration (IC), and transactional leadership style such that Management by Exception (MBE), and Contingent reward (CR) and Laissez-faire leadership

This is a cross sectional study in which data would be collected at one time from the target population group to test the hypotheses. In this research both independent and dependent variables have been carried out at the same time. The survey instrument which is used for this study has two different questionnaires, first, transformational and transactional leadership style questionnaires second, job satisfaction questionnaires. Each of them has two sections. For leadership style Section "A" is concerned with the demography of participants, providing information about participants' personal attributes. Ten items from question number 1 to 10 are concerned with the demography. These variables such that gender, age range, present employment status, highest educational level, number of employees, years in present job and years with present employer have been applied as an intervene which may affect the level of job satisfaction. Many researchers like Weber and Weber (2001); Madsen *et al.* (2005); Holt *et al.* (2007) applied demographical factors to know the context of individuals.

Section "B" of leadership survey comprises 27 items (11-37) (Appendix 1). This section brings information about leaders leadership style (self rated by the leaders), These questionnaire items have been applied by Bass & Avolio (1995). Prior to selecting the multifactor Leadership Questionnaire (MLQ Form 5X) for this research, several other instruments such as Managerial Grid, Situational Leadership Questionnaire, and Least Preferred Coworker (LPC) were considered as possible measurements of leadership behaviours. Though these instruments measure transformational and transactional leadership style, the subscales and items do not focus on a separation or differentiation of these behaviours. Instead, their emphasis is on identifying the types of leadership style that are most appropriate for the situation (Bass *et al.*, 2003; Avolio *et al.*, 2004). For these reasons, none of them was considered appropriate for this research.

The Multifactor Leadership Questionnaire (MLQ) has been improved and tested since 1985 with the result that many versions of the questionnaire have been developed. It is formulated from the Full Range Leadership Model consisting of transformational, transactional, and laissez-faire leadership behaviours with nine subscales. Bass & Avolio (1995) [as cited in Bass *et al.*, 2003], presented the MLQ Form 5X with nine subscales of leadership styles.

Participants were asked to judge the extent to which their leader engaged in specific behaviours measured by the MLQ. The MLQ Form 5X is self-scoring and used 27 items excluding least relevant ones in our country's context to measure the nine subscales (3 items for each) in this study. These items are rated using a 7-point Likert scale labeled as 0 = Totally disagree, 1 = Moderately disagree, 2 = Slightly disagree, 3 = Undecided, 4 = Slightly agree, 5 = Moderately agree, 6 = Totally agree. High score shows high effectiveness of leadership style perception while low score implies low effectiveness perception in the scale. Reliability (Cronbach's alpha) of these items was .81 and .82 respectively in previous research.

The second questionnaire is job satisfaction(EJS) section A of these questionnaire is concerned with the demography of participants, providing information about participants' personal attributes .Section "A" comprises of 10 items (1-10) which provide information about employee job satisfaction . Ten items from question numbers 1 to 10 are concerned with the demography. These variables such that gender, age range, present employment status, highest educational level, number of employees, years in present job and years with present employer have been applied as an intervene which may affect the level of commitment and satisfaction.

Survey questionnaire items from 11 to 46 are concerned with pay satisfaction, promotion satisfaction, supervision satisfaction, benefits satisfaction, rewards satisfaction, operating procedure satisfaction, co-workers satisfaction, work itself satisfaction, and communication satisfaction. All these questions show the employees psychological perception regarding his/her job satisfaction.

Job satisfaction was measured using a 36-item scale developed by Spector (1997). The scale measures nine components of job satisfaction: pay satisfaction, promotion satisfaction, supervision satisfaction, benefits satisfaction, rewards satisfaction, operating procedure satisfaction, co-workers satisfaction, work itself satisfaction, and communication satisfaction. Respondents rated agreement with each item on a 7-point Likert scale, with 0 representing "Totally disagree " and 6 representing "Totally agree .

Since overall job satisfaction was tested in the current study, each job satisfaction score represented the average response across all 36 items. Cronbach's alpha is .89 (Spector, 1997). The reliability or Cronbach's alpha for overall job satisfaction in previous research is.87. (Rynetha.R,2007)

#### **DATA ANALYSIS AND PRESENTATION PROCEDURES**

After the data collected, it is necessary to utilize statistical techniques to analyze the information as this study is quantitative in nature. Therefore, the survey data was processed using Statistical Package for the Social Science (SPSS) version 20 for windows. For all tests, the level of statistical significance was  $p \leq .05$ .

First the relevant data was coded, summarized and then transferred to SPSS to be analyzed and presented. Frequency tables were used to summarize the respondents profile in the form of frequency and percentages whereas the descriptive statistics such as mean and standard deviations of employees' answers to leadership styles and employee job satisfaction scales were calculated in order to determine employees' perceptions of leadership styles ,employees' and job satisfaction Descriptive statistics was also used to calculate mean and standard deviations of leaders' answers to leadership styles in order to determine their perceptions.

Subsequently, the researcher employed two-tailed Pearson correlation analysis to investigate the relationship between various leadership styles and employee job satisfaction The correlation analysis supported in determining both the form and degree of the relationship between the leadership styles and employee job satisfaction . Also T-tests was used to compare the MLQ of leaders and employees responses (independent samples). This is followed with presentation of the detail discussions on variables along with interpretations.

The most appropriate statistical methods that was used for this study is multiple linear regression model. It is used to test the relationship of leadership style(transformational and transactional) and employees job satisfaction on the use of demographic characteristic. The primary objective of regression analysis is to explain the relation of the dependent variable based on two or more explanatory variables. A linear regression model is the mathematical equation that provides prediction of value of dependent variable based on the known values of two or more independent variables. The reason why multiple linear regression models used in this study was due to the dependent variable which was found to be continuous and the independent variables were greater than one.

#### **RESULTS:Crosstabs Of Job Satisfaction By Demographic Characteristics**

The descriptive statistics was used as a way to examine the mean, standard deviation and other information which are not apparent in the raw data. It was needed to compare the job satisfaction with regard to the demographic information. Table 4.2 contained descriptive data (mean, standard deviations, minimum and maximum) for the demographic information as indicated by the respondents. The results were summarized as follow and the data were analyzed by using statistical application software (SPSS).

**Table 1:Summary Of Job Satisfaction By Demographic Information Of Respondents**

Variables	N	Mean	Std. Dev.	Minimum	Maximum
Empl. Sex (Are you male or female)					
Female	58	3.23	.81380	1.44	4.78

Male	127	3.16	.98793	1.22	5.33
Emp. Job tit (What is your job title)					
Expert	16	3.66	.47742	2.78	4.22
Coach	39	3.24	1.0361	1.22	5.33
Jornalist	24	3.01	.87947	1.44	5.33
Logistic	32	2.96	.89240	1.22	4.22
Others	74	3.20	.96538	1.22	5.00
Experience here (How long have you worked for the current organization)					
1 to 5 yrs	118	3.24	.96781	1.22	5.33
6 to 8 yrs	42	2.94	.97893	1.22	5.33
9 to 10 yrs	17	3.20	.71312	1.67	4.11
above 11 yrs	8	3.50	.21414	3.22	3.78
How long und lead (How long have you worked for your current leader)					
1 to 3	115	3.25	.94293	1.22	5.33
4 to 6	46	2.99	.92708	1.22	5.33
6 to 8	17	3.41	.80406	1.67	5.00
More than 8	7	2.78	1.03439	1.22	4.22
Age (What is your age group)					
up to 30 years	70	3.23	.90945	1.22	5.33
31 to 40 years	91	3.17	1.02096	1.22	5.33
41 to 55 years	14	2.94	.59391	2.00	3.78
56 years and older	10	3.30	.69102	2.78	5.00
Employee size (How many employees in your organization)					
less than 20	57	3.15	.89392	1.22	4.78
20 to 39	39	2.91	1.03162	1.22	5.00
40 to 59	18	3.12	.87728	1.22	5.00
60 to 79	9	3.17	.74143	2.33	3.89
more than 80	62	3.40	.92580	1.44	5.33
Employment education (What is your highest level of education)					
Certificate	14	3.15	.69267	2.11	4.22
Diploma	25	3.61	1.0354	1.78	5.33
Degree	123	3.13	.95437	1.22	5.33
M.ED	12	3.00	.62675	2.00	3.89
Others	11	2.98	.87745	1.22	4.22
Profession(Your profession)					
Physical education coach	41	3.17	.95424	1.22	5.33
Physical education teacher	72	3.05	.91339	1.22	5.33
Both	33	2.93	.87177	1.44	4.67
Others	39	3.64	.87903	1.44	5.33
<b>Total</b>	<b>185</b>	<b>3.18</b>		<b>1.22</b>	<b>5.33</b>

In terms of employment sex towards job satisfaction (Table 1), the highest mean number of job satisfaction was female (mean=3.23) as compared to male (mean = 3.16).Regarding to employment

job title, the highest mean number of job satisfaction respondents were expert(mean=3.66), where as the smallest mean number of job satisfaction respondents were logistic (mean=2.96) with minimum and maximum mean number of values 1.22 and 4.22, respectively. Concerning work experience for the current organization, the last group 11 years and above had the highest mean number of satisfaction towards their job (mean = 3.50). Whereas, the lowest mean number of job satisfaction was occurred between 6 to 8 years work experience (mean=2.94). As far as employees age concerned the highest mean number of job satisfaction(mean=3.30) were registered employees at the age of in between 56 and followed by age group belongs to up to 30 year(mean=3.23)and the smallest mean number of job satisfaction are obtained age group of 41 to 55 (mean 2.94).The number of employee in organization 80 or more encountered the highest mean number of job satisfaction (mean=3.40), and the second highest mean number of job satisfaction lie between the number of employee 60 to 79 (mean=3.17), followed by 40 to 59 (mean=3.12) number of employee in organization.. The results also revealed that the highest mean number of job satisfaction employee who did have diploma education level had the highest mean number of job satisfaction (mean=3.61) than that who had completed certificate (mean=2.98)) groups.

**Table 2: CORRELATIONS OF LEADERSHIP STYLE AND JOB SATISFACTION**

Correlations									
<i>Job satisfaction Leadership styles</i>	Pay sat.	Promotion	Super Vision	Benefits	Rewards	Operating procedure	Co-workers	Work itself	Communication
Transformational leadership style	.353*	.801*	.239*	.148*	.081	.316	-.027	.172*	.195*
Transactional leadership style	.312*	.374*	-.106	.037	-.064	-.090	-.073	.186	-.014

Note: N=185  
\*. Correlation is significant at the  $p < 0.05$  level (2-tailed).

Table 2 displayed the correlation of leadership style (transformation and transaction)with employee job satisfaction. The table revealed that pay satisfaction ,promotion,supervisory,benefits,work itself and communication satisfaction had relatively positive relationship with transformational leadership style were ( $r=0.353,0.801,0.239,0.148,0.172,0.195$ )respectively,whereas; rewards, operating procedure and co-workers satisfaction didn't. Transaction leadership style had positive relationship with pay satisfaction, promotion and work itself job satisfaction( $r = 0.312,0.374, \text{and } 0.186$ ), respectively.

## DISCUSSION

The purpose of this study was to examine the effect of leadership styles on job satisfaction and employee organizational commitment in federal and addis ababa administrative sport organization.

The result of the study indicated that as concerned to the correlation of leadership style (transformation and transaction leadership style)with employee job satisfaction.The result of the study revealed that pay satisfaction ,promotion,supervisory,benefits,work itself and communication satisfaction had relatively positive relationship with transformational leadership style were ( $r=0.353,0.801,0.239,0.148,0.172,0.195$ )respectively,whereas; rewards, operating procedure and co-workers satisfaction didn't. Transaction leadership style had positive relationship with pay satisfaction,promotion and work itself job satisfaction( $r = 0.312,0.374, \text{and } 0.186$ ), respectively.

## Conclusions

The result of the study indicated that there is a positive and significant relationship amongtransformational leadership style has positive relationship with job satisfafaction. on the other hand Transactional leadership style had positive relationship with pay satisfaction and promotion job satisfaction were as the other such as supervisory,benefits,rewards operating procedure,coworkers work itself and communication didn't. Results showed that the significant and meaningful correlations between leadership styles sub-scales and job satisfaction. This means that transformational leadership style used by sport leaders of the given sport organization enhanced

employees job satisfaction. Therefore special attention should be given by federal and Addis Ababa administrative sport organization leaders to motivators such as employee recognition, good working conditions, communication, competitive salaries, and promotion in order to improve job satisfaction on both group of sport organization employees. The results of previous study is showed that there is positive correlation with transformational leadership and the different sub scale of employee job satisfaction (Colette ama hukpati ,2009, Greenberg & Baron, 1995; Gritman & Bateman, 1986; Hatter & Bass, 1989; Koh, Steers, & Terborg, (1995); Lowe & Kroeck, 1996; Tossi Rizzo & Carroll, 1994).which confirm that transformational leadership is linked to follower job satisfaction. Recent studies are also supported the present study results Reza omidifar (2013),there is a direct relationship between transformational leadership style and employee job satisfaction. The result further indicated that a positive correlation between pay,promotion and work itself of the sub scale of employee job satisfaction with transformational leadership style bur the other sub scales of job satisfaction are did not positively correlated with transformational leadership style.

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## **Effectiveness of using method of exchange training in developing the explosive strength characterized by speed and its effect on skill of crush beat in volley ball**

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### **Abstract**

The research problem has crystallized in a few studies and researches dealing with the modern training where the researcher has found that the trainings used are not sufficient for the development of Physical performance of the research sample means lack of research for training strength in their training units using the style of exchange training hence the training unit consisted of ( experimental and control) groups and the research sample included young players of volley ball of (20) players and applying of the approach lasted(8) weeks and the training units amounts (3) training units weekly, and the researcher has reached several conclusions amongst, the training unit has positive effect in developing the explosive strength characterized by the speed and performance of skill of crush beat in volley ball and this illustrated applying the program in a better way.

The first Category

### **Identification of the research**

#### **Introduction of the research and its importance :-**

The amazing progress and development of sports in the world has surpassed the perception based on which the scientific theories and the sound bases for athletic training. As some countries were able to reach the athletes to the limits of abilities which where a type of fancy and they are innovations of the human minds including professors , scientists, experts and trainers.

Where the sport training contributed in general in various sport activities and distinguished contribution particularly in volley ball to realize the advanced levels via the best planning for its programs.

Achieving better levels in volley ball required focusing on many elements including the physical abilities, first of them the muscular abilities( the explosive strength and the strength characterized by speed) where it is considered one of the basic physical abilities of the general and private fitness and it appears in most of offensive and defense skills such as the crush serve, block wall, crush beat and setting

The diversity in methods of physical training is important and required with taking into consideration setting programs, where method of exchange training is considered one of the modern trends in training and one of the untraditional techniques which used diversified activities to develop the physical abilities related with the activity and this what the players acquired of enjoyment and excitement where the exchange training works to eliminate the stereotyped of performance and to avoid taking one frequency by economizing using methods of ordinary training to avoid the risk of building plateau and subsequently occurrence cease in development of strength level.

The volley ball game of different skills required coordination and arrangement in training among these skills from one hand and physical abilities on the other hand and for each skill has its ability differs from the others" more or less), thus it is important that the modern training should be characterized by harmony that the skills and the physical abilities should serve each other.

From here the importance of the research appears to identify the activity of exchange training method in development of the explosive strength characterized by speed and its effect on performance of crush serve in volleyball.

### **The research problem**

The researcher has found that the trainings used are insufficient to develop level of physical performance for the research sample, also the misused of training units divisions according to the scientific and training approach, means the research sample is in luck of strength trainings at their training units via using the exchange method for identifying its effect in some aspects of muscular

strength and performance of crush serve skill in volley ball and from here the research problem has emerged, what are the changes accompanying the explosive strength trainings and the strength characterized by speed by using the exchange training method and their effect on performance of crush serve in volley ball.

**The research objectives**

Setting training unit of exchange training method to develop the explosive strength and the strength characterized by speed. Identifying the effect of exchange training method in developing the two strengths and performance of crush serve in volley ball.

**The research hypotheses**

There are differences of statistic significance between the pre and post tests( the control and the experimental) for the two communities of the research in the explosive strength and the strength characterized by speed and performance of crush serve in volley ball.

**the research aspects**

1. the human aspect:- volleyball players of youth age groups for Al-Sinaa sport club. 2. time aspect:- for the periods 29/2/2014 till 2/5/2014. the indoor hall of Al-Sina'a sport club.

Third category

**The research method and its field procedures**

**the research method:-**

The experimental method used for its suitability with the problem nature, where it is considered the best method to be followed to achieve authentic and real results.

**The research sample**

The research sample was chosen deliberately from players of Al-Sina'a sport club of volley ball of (20) players, where the research sample was divided randomly into two (control and experimental) groups also harmony in (height, weight and age ) was performed and it has become clear that research sample was harmonized where the torsion coefficient +3 illustrated in table (1) also equivalence was performed for the two research communities in the pretests

**Table(1): Illustrated mean and standard and standard deviation and value of torsion coefficient for the research sample for homogenization**

variables	mean	Standard deviation	average	Torsion coefficient
Age	17.33	0.49	17.00	2.020
Height	173.58	5.93	172	0.799
weight	56.92	3.60	56.50	0.35

**Table (2) illustrated the statistic data for the research variables for equivalence**

Tests	First experimental		Second experimental		Test calculated	significance
	M.	S.D.	M.	S.D.		
Test of explosive test for legs	38.97	2.8	39.17	4.96	0.215	Non-significant
Tests of explosive strength for arms	7.61	1.08	7.04	1.04	0.763	Non-significant
Tests of strength characterized by speed for the arms	7.5	0.55	7.67	0.52	0.542	Non-significant
Tests of crush serve skill	18.67	2.42	18.33	1.860	0.267	Non-significant

Value of (t) tabular (2.10) at significant level (0.05) under free degree (18)

Tools and equipment used in the research:-

Arabic and foreign References and sources

Tests and meters

Device for measuring weight and height and Form of registering and unloading data

tests used:-

Test of explosive strength for the legs muscles

Test of explosive strength for the arms muscle, Test of strength characterized by speed for the legs muscles, Test of strength characterized by speed for the arms muscles and Tests of crush serve skill.

questionnaire experiment

The questionnaire test was performed on 29/2/2014 on a sample consisted of 3 players from the community research and from out side the community sample, and the objective of the questionnaire experiment to specify the repetitions and groups about how performing resistance training for the sample members, and the suitable place to apply the training unit, besides recognition errors resulted from them then performing the used tests.

steps of the research procedures:-

the pre-tests:- the pre-tests were performed on 3/3/2014 on the members of the research sample.

the experimental method:-

The researcher conducted training units based on the questionnaire experiment depended setting the method on some of foreign resources and scientific references, and the researcher has observed the physical and skill level and ability for the research sample and the training unit period of (8) weeks of (3) training units, and the training unit applied on 5/3/2014 till 30/4/2014, and implementing the training unit lasted (80) minutes, where

waves of training load 3/1 and the training unit implemented at the period of

private setting and applied on the experimental group as for the control group on which the pre-tests and the tests followed previously.

**statistical means:-** Mean, Standard deviation, Torsion coefficient

Test (t) for two averages connected means Test (t) for two averages disconnected means

Forth category

-Display, analyzing and discussing results

Displaying, analyzing and discussing results of the experimental and the control) groups in the post-tests

Table illustrated means and standard deviations and value of calculated ( ) in the post tests for the two research groups

Tests	Metric unit	Pre-test		Post-test		( ) value	Significant
		-M.	S.D.	-M.	S.D.		
Explosive strength for the legs	cm	49.33	4.03	41.5	4.04	3.362	Significant
Explosive strength for the arms	M.	9.33	0.89	8.4	1.03	4.332	Significant
Strength characterized by speed for the arm	repetition	16.50	1.05	9.67	1.03	5.371	Significant
<b>Strength characterized by speed for the arms</b>	<b>repetition</b>	<b>15.5</b>	<b>0.84</b>	<b>10</b>	<b>0.89</b>	<b>3.113</b>	<b>Significant</b>
<b>Crushing beat</b>	<b>repetition</b>	<b>29.33</b>	<b>2.42</b>	<b>22</b>	<b>2.28</b>	<b>5.4</b>	<b>significant</b>

Table(5) illustrated displaying means and standard deviations for the two groups of the research that there is developing in two groups, but developing the experimental group is clear and better than the control group and this ascribed for using of the experimental training unit especially time performing repetitions and groups, besides suitable period for rest and this leads to occurrence of changes in the body systems, (Despina) emphasizes that the competent scientific training in physical abilities leads to occurrence of changes in most of muscular components, and development of kinetic energy and then skills associated with performance

## Fifth Category

### **Conclusions and recommendation**

#### **conclusions**

1-The training unit of exchange method has clear and positive effect for the experimental group.

Validity of using exercises in developing the two explosive strengths and the strength characterized by speed and performing skills of crush beat in volley ball.

There are significant differences between the two groups in training in favor of the group trained by method of exchange method.

#### **Recommendations**

Using training by using exchange method has positive impact in developing the two strength's and performing skill of crush beat in volley ball.

Emphasizing on diversity in exercises and changes with the new innovation as possible.

Performing similar studies and activities for other sport

## **An analytical study on wrestling with special attention to fishing community of Dakshina Kannada (coastal) district of Karnataka state'- research paper.**

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### **Abstract**

This paper is tried to analyze the reasons to more participation of fishing community in wrestling than other communities in South Canara District, a coastal district of Karnataka state. It's highlighted the rate of participation of different communities in wrestling championships in the coastal district. Wrestling is popular in South Canara and maximum participation are mainly from fishing community i.e. Megaveera's are compared to the other sports. Data collected from the various vyayamshalas (wrestling practicing schools) of the district and district wrestlers association through the questionnaire and analyzed. Mogaveeras are the major fishing community in coastal Karnataka. The form one of the largest communities of the ethic group. They dominate in fishing and marine business in the district  
Key words: wrestling, south-canara, mogaveera, fishing

### **Introduction**

Play is essential component to stay fit and to survive. Therefore the mammals developed the efficiency of all body to survive in the adverse conditions. Human beings without any exception maintained to efficiency and strength of those parts of body, through vigorous movements. This natural tendency might have urged to provide some of the playing habits which lead to various sports and games.

Among lot of sport events some opt wrestling for the physical health and for the competitions. Wrestling in India is popularly known as mallayudda. Some forms of mallayudda were practiced in India even before the invasion of the Aryans. The famous Indian epic, Mahabharata has a mention of the game of wrestling.

Wrestling in India, during ancient times used to get regular patronage from the emperors and kings. During British rule, wrestling in India got another big push as the British rulers included it in the military training. The British military including Indian soldiers got attracted to wrestling.

In the coastal region of Karnataka the mogaveera (fishing community) community youths are traditionally known for bravery. The naval force of the famed queen abbakka of Ullal in Dakshina Kannada consisted of brave mogaveera youths. With the support of the strong navy she could mount a valiant attack against Portuguese during the eighteenth century.

In olden days the place of wrestling practice was called garodi. The senior wrestlers were coaching in this garodi. It was also called vyayamshala. Many vyayamshalas were located in the coastal side of the district. In olden days famous wrestlers had their own Garodies. And the wrestler who was coaching called as Pahilwan. Under him many wrestlers were practicing and they represented their garodies / gyms/ vyayamshala in the competitions.

Wrestling akhada is called wrestling arena. these akhadas were built inside the vyayamshala. Akhada was made of loose soils. The soil is mixed with turmeric powder and kumkum. The soil naturally got mixed with water. As the turmeric powder got antiseptic medicinal content, it was also added with soil and water to protect the skin.

Mogaveeras are the major fishing community in coastal Karnataka. The form one of the largest communities of the ethic group. They dominate in fishing and marine business in the district. The mogaveer represent the native fishing community of coastal area. They are known for community living where disputes are settled with the community by a group leader.

### **Statement of the problem**

Sport is a universal activity. Anyone can play or practice or get recreation by it. There is no boundaries for human beings to enjoy other sports or games. But sport and games have their own rules, they do not restrict or avoid any person or any community from participation. There is no caste or the color ban in sports, all are equal in sports. Wrestling is popular in South Canara and maximum participation are mainly from fishing community i.e. Mogaveera's as compared to the other sports. This has led to go into the depth Moraveeras are more interested in wrestling and not others.

This study it is '**an analytical study on wrestling with special attention to fishing community of DK district**' has been taken up for the purpose of elaborate detail on the particular field.

**Delimitation**

This study is delimited to Dakshina kannada district  
The wrestler who participated at district level and Mangalore university level.

**Limitations**

The subjects as listed in the vyaymshala records. The data is collected by the interview or questionnaire

The wrestlers are not well educated.

**Methodology**

The purpose of the study is to know about the contribution of fishing community to the promotion of wrestling in south Canara district.

The questionnaires was formed with a view to make a comprehensive study on the topic. Great care has been taken include the most important factors that may have directly or indirectly influenced the performance of wrestlers in the district.

The questionnaire covered the following are

General information, Achievement of the subject in wrestling, Family background of the subject  
Economic status of the subject, Motivation and encouragement for participation, Level of achievement in wrestling.

After preparing the questionnaire, it was given to few wrestlers and after getting the answers, the ambiguity and unclear questions were re-structured. Thus the questionnaires were finally administered to the subjects across the district.

The researcher collected data from 150 wrestlers across the district. The subject were selected by simple random technique. The response was hundred percent because the investigator visited 150 wrestlers personally to collect the information.

**Analysis of the data and result**

The collected data was analyzed by content analysis method and presented in this chapter. The purpose of the study is to examine the involvement of fishing communities of the district in wrestling. To achieve the purpose of the study and to get better result, the data is presented in tables.

Some interpretation are arrived on the basis of percentages based on the content analysis.

While collecting data the researcher came to know that the following vyayamshalas are actively participating in wrestling every year.

Ramanjaneya vyayamshala, RTT road Mangalore, Veerahanuman vyayamshale Bengre, Veera maruthi vyayamshale Bengre, Ramanjaneya vyayamshale Kudroli, Shivaji physicals Bolar, Anjaneya vyayamshale, Shashihithlu, Veeramaruthi Bolar, National health league, Surathkal, Badria health club, Surathkal, Jaiveera maruthi vyayamshale, Thokkottu, Veeramaruthi vyayamshale, Ullal, Anjaneya vyayamshale, Adyarpadavu and Anjaneya vyayamshale, Urwastore.

All the vyayamshalas located on coastal area of the district. All over the district there are many vyayamshalas but only above vyayamshalas are participating in the district level wrestling competitions. It means the coastal area vyayamshalas are only giving training to wrestling. Rest of the gyms are composite and engaged in other games or sports. It is observed that in the Mangalore university intercollegiate wrestling competitions, the coastal line colleges are only participation in wrestling competitions.

**Table I:** Involvement of different income groups of communities of DK District in wrestling

Sl. No.	Income group	Fishing Community	Muslims	Christians Others	others	Percentage
1	Low	13	03	0	08	24%
2	Middle	28	10	02	03	63%
3	High	11	-	-	02	13%
Total		52	13	02	33	

On the basis of collected data, the researcher prepared the table. Above table shows that 24% of the wrestlers are from low income group and 63% are from middle income group and the 13% are from high income group.

The table 1 also shows the involvement of different communities in 04 division. That is 1 fishing community, 2 Muslim community 3 Christian community and 4 others.

The 4<sup>th</sup> division other community means all the sub casts in Hindu community other than mogaveeras community. It includes Bunts, Billavas, kulals, Shettygars Brahmins, SC/ St and all others.

**Involvement of different communities in wrestling**

According to the collected data it shows maximum number of wrestlers participating are the fishing community it is mogaveeras. The figure 1 shows 52% of the total wrestlers of the from fishing community. It is more than the other communities representation. It shows 13% wrestlers are from Muslim community, 2% are from Christian.

The 33% wrestlers are from all other communities including bunts, billavas, kural bhramin, sc/st and other communities of DK district.

**Table 2:** Achievement of different communities different level of competitions

Sl. No.	Level of Competitions	Fishing Community	Muslim	Christians	Others
1.	National	-	-	-	-
2.	Inter university	22	6	-	13
3.	State Level	7	1	-	2
4.	District Level	23	6	2	18

According to the above table the wrestler from fishing community wrestlers are the top achievers in wrestling in Dakshina Kannada. But no one has participated at open national wrestling competition from this region. The data shows that 22 have represented Mangalore University out of 52 respondents in this study. It shows the achievement from the Christian community is very less. We can analyse that the participation of other communities is very low as compared to Mogaveeras.

**Table 3.:** Generation involvement of different communities is in wrestling

Sl. No	Generation	Communities			
		Fishing community	Muslims	Christian	Others
1	From two generation	4	-	-	-
2	Grand father	8	-	-	-
3	Father	21	-	-	-
4	Present	18	13	2	31

The researcher tried to find out the wrestlers generation involvement in this region. He wanted to know from how many generation the people from different community have involved in this event.

This table shows only the fishing community wrestlers are having their ancestral generation relationship in this game. All the other communities participated in the event recently.

**Table 4.**

Sl. no	Communities	Parents (father)	Brothers	sisters	Other relatives	Nil
1.	Fishers	21	19	-	7	5
2.	Byari (Muslims)	-	-	-	2	11
3.	Christians	-	-	-	-	2
4.	others	1	-	-	-	33

Above table shows the family members involvement is more in fishing communities than any other major communities in the district. Researchers found data no family involvement in the byari (Muslim), Cristian communities and other Hindu communities except mogaveer that is fishing community.

**Conclusion:**

The wrestling is very familiar and popular game of the fishing community (Mogaveer) of DK District. It is difficult to conduct any game during rainy season in the outside even if the fishing community is on leisure time on that season the vacation for fishing in DK district during rainy season it is difficult to any game outside. Wrestling being practiced on sea shore and akhadas keeps fishermen active all through out the year. Minimum of 02 people are enough to practice the wrestling. even when they have free time in between fishing period. The middle income group takes pride in this event. mogaveer being living on the coastal do not need much preparation for wrestling area since, sand is found all over their living place. Hence wrestling has been found to be their family event.

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## **Involvement In Competitive Combat And Non-Combat Sports And Its Effect On Frustration Tolerance Of Varsity Sportspersons**

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### **Abstract**

The aim of the present study is to compare frustration tolerance of varsity sportspersons participating in competitive combat and non-combat sports. To conduct the study, 200 sportspersons of both the sexes who participated in interuniversity tournaments organised for combative sports such as boxing, judo and wrestling (Ave. age 24.50 years) and 200 sportspersons of both the sexes who participated in interuniversity table tennis, volleyball, swimming which are non-combative in nature (Ave. age 20.54 yrs) were selected as sample. Purposive sampling was used to select sportspersons participating in combative and non-combative sports. Frustration Tolerance (FRTO) test constructed and standardized by S.N. Rai (1984) was used as a psychological instrument in the present study. Results indicate that frustration tolerance was found to be higher in sportspersons taking part in non combative sports as compared to those players participating in combative sport although the result was not supported under the criteria of statistical significance. It was concluded that involvement in sports which are different in their basic nature influence the capacity of players to tolerate frustration to a certain extent.

Keywords : Frustration tolerance, combative sports, non combative sports

### **Introduction**

According to psychological viewpoint, frustration is an emotional reaction to resistance. When an individual goals are obstructed by some internal or external factors, frustration creeps into the behaviour of an individual. According to Harriman (1947)<sup>1</sup>, frustration is a condition of being thwarted in the satisfaction of a motive or 'any interference with a goal response or with the instrumental act leading to it (Sears, 1946)<sup>2</sup>. Everyone in their life cycle have to tolerate frustration. The terms frustration tolerance indicate a person's ability to cope with stressful situation to a certain degree. Frustration tolerance can also be considered as ability of a person to strive towards his/her goals despite obstacles and failures. The definition given by Rosenweig (1944)<sup>3</sup> clearly states that it is an individual's capacity to bear frustration without resorting to inadequate modes of behaviour.

Like any other professional working in allied fields, sportspersons also experience stressful situations like injury, environmental stressors etc. It has also been scientifically documented that participation in sports develops psychological qualities such as ability to solve psychological problems, adjustment, emotional stability and capacity to cope with stressors (Sidhu et al. 2013<sup>4</sup>, Singh et al. 2013<sup>5</sup>, Mittal, 2014<sup>6</sup>). But so far psychological quality such as frustration tolerance has not been investigated in terms of nature of sports which a player is taking part. Sports being classified as combative, non-combative, contact, non contact, individual vary greatly in its nature both in terms of rules and many other factors such as injury occurring from specific sports due to its very nature. In this sense a combative sport in simple terms is one to one fight between two players while non combative sports like volleyball, basketball, swimming, table tennis are different in terms of contact, non contact, and individual / team sports with no direct physical dual with the opponent.

Researchers like Lane et al. (1999)<sup>7</sup>, Lane et al. (2003)<sup>8</sup>, Fisher et al. (2003)<sup>9</sup>, McGuigan et al. (2006)<sup>10</sup>, Nunan (2006)<sup>11</sup>, Khetmalis and Das (2013)<sup>12</sup> have studied various physiological, skill related, psychological aspects of sportspersons participating in combative sport but so far frustration tolerance, a major psychological variable have not been assessed comparatively between sportspersons participating in combative and non combative sports, hence the present study was planned.

Hypothesis

It was hypothesized that frustration tolerance in sportspersons participating in combative sports will be significantly better as compared to sportspersons participating in non combative sports .

**Method:**

To test the abovementioned hypothesis, following methodological steps were taken.

**Sample :**

To conduct the study, 200 sportspersons of both the sexes who participated in inter-university tournaments organised for combative sports such as boxing, judo and wrestling (Ave. age 24.50 years) and 200 sportspersons of both the sexes who participated in interuniversity table tennis, volleyball, swimming which are non-combative in nature (Ave. age 20.54 yrs) were selected as sample. Purposive sampling was used to select sportspersons participating in combative and non-combative sports.

**Tools :**

To assess frustration tolerance, Frustration Tolerance (FRTO) test constructed and standardized by S.N. Rai (1984)<sup>13</sup> was used. Number of attempts made by the subject on insoluble puzzle number II and IV are noted and summed up which gives frustration tolerance score. Higher the mean attempt, better the frustration tolerance capacity is the pattern of interpretation.

**Procedure :**

After selection of sample as per the objectives of the present study, frustration tolerance test was administered to each subject giving importance to their convenience. Number of attempts made by the subject on insoluble puzzle number II and IV were summed up and tabulated. After scoring, data were tabulated according to their respective groups. 't' test was used to find out differences among these two groups. Results are presented in table 1.

**Results**

Table No. 1: Comparison of Frustration Tolerance among Varsity Players on the Basis of their Participation in Combative and Non Combative Sports

Variable	Combative Sports Group (N=200)		Non Combative Sports Group (N=200)		t	Level of Significance
	M	S.D.	M	S.D.		
Frustration Tolerance	34.38	20.01	38.09	21.41	1.79	p>.05

t(df=398) = 1.97 at .05 level

A perusal of table 1 reveal that frustration tolerance of sportspersons belonging to non combative sports group (M=38.09) was higher as compared to sportspersons constituting the combative sports group (M=34.38) although not statistically significant [t=1.79, p>.05].

**Discussion**

The result of the present study indicate that frustration tolerance in sportspersons opting for non combative sports is higher than that of sportspersons involved in combative sports although not statistically significant. Since frustration tolerance is affected by so many variables like age, sex, personality, environment etc., the results need to be evaluated in the light of these variables also apart from nature of sports.

**Conclusion:**

Results of the present study leads to a conclusion that ability to tolerate frustration in sportspersons involved in non combative sports was higher as compared to sportspersons involved in non combative sports although the statistical criteria fails to justify it.

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## Comparative Study Of Sports Facilities And Programs In Relation To Sports Achievement Among Different Schools

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### Abstract

Education is a process in which and by which knowledge, character and behavior of the young are shaped and moulded. It is a constructive process leading to enlightenment and development of all the aspects of an individual's personality i.e. physical, mental, emotional, social, and intellectual and spiritual. To sum up, education leads to his integrated, balanced and all-round development, making him civilized, mature and responsible member of the society possessing dynamic personality. The aim of this study was to study 'the sports facilities and program in relation to achievement among government schools and public schools'. It was further aimed to develop the questionnaire, which will be helpful for upcoming researcher. For this purpose 286 students of public and government schools were randomly selected to serve as subjects. The data was collected by administering the questionnaire to all the subjects in different public and state govt. schools. It was revealed during study that public schools have greater facilities and programmers' of physical education than government schools.

**Key words:** Government School, Private School, Facilities, Programme, School

### Introduction

Education is a constructive process leading to enlightenment and development of all the aspects of an individual's personality i.e. physical, mental, emotional, social, and intellectual and spiritual. To sum up, education leads to his integrated, balanced and all-round development, making him civilized, mature and responsible member of the society possessing dynamic personality.

For a primitive man, food, shelter and clothing were his primary needs. These needs however increased with the progress of the society and among other education, health, and recreation etc. came to be added in this growing list. These human needs can be classified into biological, sociological and psychological aspects of life. Man has made a great progress in fulfillment of all these needs and education has played a great role in this ever continuing process of evolution of man from being primitive to the present, cultured and civilized human being.

***"Education is the development of the power of adaptation to an ever changing social environment."*** - P.C. Banerji

Singh surveyed the facilities and personnel in relation to compulsory physical education in secondary schools of Punjab and found that about 10 percent of the schools had facilities for the physically handicapped students and all the schools had introduced physical education as the compulsory physical education programme. The data was collected through a carefully compiled questionnaire, supplemented by personal visits.

The questionnaire was sent to 225 heads of the secondary schools of Ahmednagar district of Maharashtra state and 135 out of them were returned with necessary information, which worked out to 60 percent, and was considered to be a good percentage for study. The data furnished in the questionnaire by the respondents were analyzed in terms of percentages in the category wise on the basis of pupil strength of the schools, and the method of logical analysis were used to obtain meaningful results.

Gayle conducted a study for proposed physical education programme for girls in selected high secondary schools Pitt country, north Caroline. Girl's physical education programmes were evaluated in nine selected schools by visitation and interview using health and physical education score card II developed by the committee on curriculum research of the college of physical education association. The average effectiveness was 32 percent compared to 28 percent for the mention as a whole and 30 for North Carolina. The study revealed the inadequacies in the programmes like of qualified instructors, lack of funds, limited curriculum and in sufficient facilities and equipment.

Mizuguchi surveyed the boy's physical education programme in junior and senior high schools in Honolulu, Hawaii. The areas were surveyed: and the survey method of research was used. The nelson score card for the evaluation of the boy's physical education programme for junior high and senior high schools were utilized to obtain the following data: instructional staff, facilities, and programme organization, programme activities and professional assistance. The survey was an attempt to candidly evaluate the current status of physical education programmes for boys and to monitor the finding and inform all concerned regarding the evaluation. He came to the conclusion that programme as a whole was not adequate and was below the normal standards; in comparison to junior schools, senior schools had to some extend better programmes.

Jack opines that factors such as number of years of required physical education, size of playground and marking system used in physical education shows no significant difference between large and small schools. The schools had an advantage over the large schools in regard to such factors as location of playgrounds and size of physical education classes. The large school was superior to small school regard to number of periods per week, number of activities, length of periods, the presence of gymnasium in school building, number of teachers, number of period's physical education teachers teach in other fields and the number of supplementary indoor physical education facilities.

### **Methodology**

The purpose of this study was to examine the physical education programme and sports facilities among two different sectors of schools.

**Selection of subjects:** This study was conducted at different schools comprising of 286 students of public and government schools. Subjects were randomly selected for the study.

For the purpose of this study, a survey was carried out at different schools. The subjects were exhorted to give their frank and true opinion and the research scholar had assured the respondents that the information given by them would be kept confidential and utilized for the research purpose only.

**Tools of the study:** Data was collected by administering the questionnaire to all the subjects in different public and state govt. schools. Statements were clearly explained to the subjects. Responses of the subjects regarding different physical education programme and sports facilities were recorded. Responses received from all these subjects and their identity were kept anonymous. Subjects were ensured that their confidentiality and anonymity would be maintained throughout the study. To analyze of data descriptive statistics was employed for each selected response and to compare the non parametric responses chi-square was used.

**Results and discussions:** The attitude survey was undertaken on a total of 286 students. 100% students participating in the study said that they have physical education teachers in their school and 90% of them believed that there is syllabus of physical education which is followed in their school. 67.13% students confirmed that physical education is compulsory examination subjects for them whereas 77.62% students of different classes disagreed and said that their physical education periods are not being utilized for teaching other subjects rather than physical education. Also, 100 % subjects agreed and accepted that the school do conduct intramural tournament as inter class, inter session etc. Also, most of students said that they do not have specialized coaches for different sports and games. Only 7.69% of subjects disagreed and responded negatively that their playground is not properly fenced whereas, 90.20% students felt that the area available for indoor games was adequate.

### **Conclusion**

Null hypothesis of no difference in facilities available among the government school and public schools could not be established. In other words, it was concluded that public school have greater facilities and programmes of physical education than government schools in this study.

## Recommendation

Further research is imperative for understanding the impact of available facilities on attaining higher level of sports achievements. Studies involving a larger population would be useful in making inferences about available sports facilities and its relation with achievement in the field of sports. Research comparing student attitudes in traditional and experimental physical education programs could be beneficial and would extend the research. Another research option would be to study inter relation, if any in the available infrastructure, facilities available and the proficiency, level of achievement in the field of sports.

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## **Teaching Competencies and Emotional Profile of Physical Education Instructors of State University in La Union: Basis for Competency Enhancement Program**

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### **Abstract**

The study assessed the teaching competencies and emotional profile of Physical Education Instructors of State University in La Union. Data was gathered from three different sources consisted of PE instructors, students, and chairpersons using questionnaires. Data were tested using frequency count, average weighted mean, and correlation analysis. Findings revealed that majority of the PE Instructors are relatively young in age and experience, academically qualified, permanent and have regular teaching load. All the desirable qualities of effective PE instructors were perceived by the respondents as “very important” to “most important”. The PE instructors were rated “highly competent” by the students and very highly competent by the immediate supervisors along the seven teaching competency components. The respondents were found to be generally trustful, approachable, uncritical and unadventurous. An enhancement program to improve if not to sustain the teaching competency is proposed to optimize the instructional effectiveness of Physical Education Instructors.

### **Introduction**

By virtue of DECS order No. 58 series of 1990 or the guidelines and standards for Collegiate Service Physical Education Program and Article XIV Section 19 of the 1987 Philippine Constitution, Physical Education has become an integral component in the educative process as it contributes to the physical, social, emotional, moral and intellectual development of the college student, as well as to the revival and the preservation of the Filipino cultural heritage. Furthermore, the State deems necessary the promotion of physical education and sports program to foster self-discipline, teamwork and excellence for the development of a healthy citizenry.

With the premise that Physical Education is a professional field that requires not only professional competence but also the necessary qualities and competence of a strong teacher-leader (Andin 1984) who is endowed with the personality that influences their teaching performance, characteristics and efficacy (Magno and Sembrano/David and Macayan, 2010), the researcher sought to analyze the profile of College Physical Education Instructors in the State University and to establish the relationships among the personal factors of teachers with their competencies and emotional profile.

### **Methodology**

The study made use of the descriptive research design. The methods involved range from the survey which describes the quo, the correlation study which investigates the relationship between variables, developmental studies which seek to determine changes over time.

Proportionate sampling was employed to determine the specific number of respondents for colleges/institutes. Lynch formula was used to determine the number of representative.

Content validity of the questionnaire was established through the pooled judgement of “experts” on physical education teachers and the standards set by the National Association of Sports and Physical Educators of the United States (NASPE,2008).

### **Results and Discussions**

The study reveals that the competence of Physical Education Instructors among the student respondents were rated as "highly competent in the seven component of teaching competency based. The immediate supervisors, on the other hand rated as "very highly competent in all seven components of teaching competency.

**Conclusion**

Physical Educators should possess desirable qualities to be considered effective teachers. Physical Educators in the state university in La Union have the necessary competence to teach.

**Recommendation**

Physical Education Instructors should be encouraged to finish their Master's degree to upgrade their academic profile which will eventually lead and translate to improve their teaching competency. Another study may be conducted to assess the personality traits of PE instructors using a more comprehensive instrument. The competency enhancement program in this study is recommended for adoption by the individual physical education instructor or by operating unit concerned.

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## **Coping in Professional Sport: A Case Study of an Experienced Cricket Player.**

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### **Abstract**

The purpose of this article was to examine the coping responses employed by an athlete to manage the daily hassles he experienced in professional sport. Adopting a phenomenological orientation, data were gathered via four in-depth interviews with an experienced professional cricket player. Findings indicated that stress appraisals were related to endangerment of personal performance goals. Coping strategies deployed to deal with these stressors were evaluation and planning (learning about opponents, reading (new) opponents, and understanding conditions), proactive psychological skills (confidence building and maintaining concentration) and reactive psychological skills (resilience and self-talk). Results are discussed in the context of previous situation-specific research on appraisal and coping. Finally, implications for researchers and applied sport psychologists are outlined.

### **Introduction**

Coping represents an individual's cognitive, affective, and behavioral efforts to manage specific external and/or internal demands (Crocker, Kowalski, & Graham, 1998; Lazarus, 1999). Athletes must develop a range of cognitive and behavioral coping skills to manage the competitive stressors they face (Scanlan, Stein, & Ravizza, 1991). Obtaining information about the nature and application of coping strategies used by elite athletes has special appeal for practitioners in sport psychology because it offers a foundation for interventions. The most widely used coping model in sport psychology is based on Lazarus and Folkman's (1984) transaction process perspective. They view coping as a process that begins with situational appraisal. Primary appraisal refers to how an individual evaluates the personal significance of a situation with regard to his/her values, personal beliefs, situational intentions, and goal commitments. If the individual appraises that his/her goals are at stake, an emotional response occurs and the outcomes are perceived in terms of harm/loss (i.e., damage has already occurred), threat (i.e., the possibility that damage may occur), or challenge (i.e., where people enthusiastically pit themselves against obstacles). Secondary appraisal refers to a cognitive-evaluative process that focuses on what can be done about a stressful person-environment relationship, especially when there has been a primary appraisal of harm/loss or threat. Secondary appraisal provides the cognitive underpinning for coping. The transactional perspective assumes there to be coping responses that serve one of two important functions (Lazarus & Folkman, 1984). Problem-focused coping refers to strategies used to manage or alter a stressor through behaviours such as information gathering, goal-setting, time management skills, and problem-solving. Emotion-focused coping refers to attempts at regulating emotional responses resulting from a stressor through actions like meditation, relaxation, and cognitive efforts to change the meaning an individual attaches to a situation.

Coping theorists have also distinguished between acute and chronic stressors. Acute stressors are major life events, such as sickness or loss of a loved one, whereas chronic demands refer to recurring daily stressors (Compas, 1987). In sport, participation in major championships (i.e., Olympics, World Cup finals) could be considered major life events, whereas chronic stressors are recurring day-to-day events associated with sport participation. Considerable sport coping research has been concerned with elite amateur athletes perceptions of stress and coping responses at major competitions (e.g., Dale, 2000; Dugdale, Eklund, & Gordon, 2002; Gould, Eklund, & Jackson, 1993; Holt & Hogg, 2002; Pensgaard & Ursin, 1998). Major competition stressors reported by elite athletes include: organizational factors, media pressures, travel, competitive expectations, preparatory training; coaches' communication, demands of

elite sport, and distractions (Gould, Eklund, & Jackson, 1993; Gould, Guinan, Greenleaf, Medberry, & Peterson, 1999; Holt & Hogg, 2002).

Adopting a retrospective approach, Gould, Eklund, and Jackson (1993) showed that 1988 US Olympic wrestlers dealt with adversity during their bouts by using thought control, maintaining task focus, behavioral changes, and emotional control. Dale (2000) found that elite decathletes ( $N = 7$ ) maintained task-focus during their most memorable performances by reinforcing the importance of competing against themselves and reminding themselves of their preparatory training to deal with doubts. Coping strategies reported by members of a women's international soccer team ( $N = 10$ ) during preparations for the 1999 World Cup finals included re-appraisal, use of social resources, performance behaviours, and blocking (Holt & Hogg, 2002). These investigations provide a descriptive foundation for understanding the different ways in which elite athletes cope at major competitions.

One previous investigation that appeared to tap into how athletes coped with daily hassles was a retrospective study of stress and coping among former elite figure skaters (Gould, Finch, & Jackson, 1993). Coping strategies used by former elite figure skaters to manage regular daily stressors during training and competition included: rational thinking and self-talk, positive focus and orientation, social support, time management, training hard, isolation, and blocking. Similarly, Noblet and Gifford (2002) examined chronic sources of stress among Australian Rules football players ( $N = 32$ ). Sources of stress included performance concerns, lack of feedback, difficulty balancing football and study commitments, and job insecurity. Unfortunately the researchers did not actually examine the coping strategies used by professional footballers, but the wide range of indirect and direct performance stressors identified highlights the need to consider coping strategies used by professional athletes to manage daily hassles.

Overall, the majority of sport coping research has been concerned with responses employed by elite amateur athletes to deal with major competition stressors. Daily hassles research is under-developed and the coping strategies used by professional athletes to manage daily hassles have yet to be adequately examined. A fuller understanding of coping in sport will be developed by examining coping with different types of stressors (i.e., acute and chronic) among different sport populations. The purpose of this case study was to explore the lived experiences of a professional athlete in relation to the daily hassles stressors and associated coping strategies he employed during a competitive season.

### **Methodology**

The methodological assumptions that guided this study were based on Heidegger's (1927/62) hermeneutic (interpretive) phenomenology, which is an approach to understanding human experience that is directed by the question: 'What is the structure, meaning, and essence of this lived experience for the people involved?' (Kerry & Armour, 2000; Van Manen, 1997; Patton, 1990;). Using this methodology to access lived experiences enables researchers to come to a better understanding of the deeper meaning or significance of an aspect of human existence (Van Manen, 1997). Given that the purposes of this study were to examine the nature and content of coping strategies employed by a professional athlete, the capacity within hermeneutic phenomenology to focus on the structure and meaning of lived personal experiences made it an appropriate methodology.

**Participant** :With phenomenological research it is vital to select an information rich case who can provide adequate depth of information based on his/her experiences (Patton, 1990). The participant in this case study (Gautam) was a professional cricket player. At the time of data collection he was 31 years old, a senior bowler with a professional cricket side in India, and had been a professional cricketer for 12 years. He had one international cap, but his opportunities at this level had been reduced due to a knee injury. As such, Gautam was a veteran player who had successfully managed a professional career for many years and was in a position to provide detailed descriptions of the stressors and coping strategies professional cricketers experience.

### **Data Collection**

Data were collected via four in-depth (one hour) interviews conducted during the first part of May to August. A female undergraduate student who had received training in research interview techniques conducted all interviews. The purpose of the first interview was to establish rapport and trust with the participant (Patton, 1990) and inquire about his goals, values, and perceptions of stress. Subsequent interviews were guided by themes that arose during data analysis. The repeated interviewing approach facilitated the corroboration of emerging interpretations (on-going member-checking) and produced prolonged engagement which adds to the trustworthiness of the study (Lincoln & Guba, 1985). It also facilitated interaction between data collection and analysis; another important element of qualitative research (Strauss & Corbin, 1998).

## Data Analysis

The data were subjected to phenomenological thematic analysis (Van Manen, 1997), which was designed to develop a series of pertinent themes that represented the participant's lived experience of coping in cricket. Inductive, line-by-line analysis was used to identify and code units of meaning, which were then organized as central themes pertaining to the participant's experience. Each sentence was subjected to the question "what does this sentence reveal about the phenomenon or experience being described?" (Van Manen, p. 93). Themes were developed as several similar units of meaning were identified. Once the central themes had been established, meaning units within one theme were compared to other meaning units (intracase comparisons) to ensure the accuracy of units assigned to each main theme. Finally, themes were compared to extracase comparisons from existing theory.

## Results

### Personal Goals and Values

It is important to establish the personal goals and values that underscores stress appraisal and subsequent coping processes (Lazarus, 1999). Gautam explained that his job as a professional cricketer dominated his life: "Cricket is my main source of income, and it has been for the last 10 or 12 years. It's a huge part of my life, playing 5 days a week. It's a pretty nice way to make a living." As an experienced member of his team, Gautam was the senior bowler and he also had some coaching responsibilities with the youth development program. His life was dedicated to and dominated by being a professional cricketer.

Gautam defined success as a cricketer completely in terms of performance outcomes. He said, "Ultimately the best players are the ones that take the most wickets and score the most runs. It's what you come out with at the end of the day." Accordingly, Gautam's personal goals for the season revolved around performance outcomes. He had learned to focus on short-term goals, and aimed to take four wickets in every county championship (four day) game. However, Gautam also possessed longer-term aspirations that formed an important part of his values and beliefs. He said, "I played for England once about three years ago. I mean, obviously I would like to try and get back into the England set up, that's what I would like to try and achieve." Given that the goals Gautam set for himself were to take wickets, the main stressor he reported was failing to take wickets. His goals were endangered when he performed poorly. As such, performing well enough to take four wickets per game was the major stressor he identified, to which all his coping strategies were directed.

### Coping Strategies

#### Evaluation and Strategic Planning

Gautam used three techniques to enable him to strategically plan ways in which he might be effective. He explained, "You've got to have a general overall plan. There are always things going on in your mind trying to keep one step ahead really, and I have a different game plan for different batsman... I supposed it's being one step ahead, being in charge of what's going on."

*Learning about opponents.* Gautam learned about opponent's strengths and weaknesses through prior experiences. He said, "90% of them [opponents] I've played against before so I know what to expect. I have an idea in my head of how I'm going to bowl at certain people... You sort of have to recreate what has worked for you in previous games." He explained how he used this experience against a specific opponent: "I remembered how I got him out and where he scored most of his runs, so where his strengths and weaknesses are. So then it's important that you try and work on his weaknesses."

*Reading (new) opponents.* Although Gautam had played against most of his competitors before there were always new players coming into the league. He thought that it was important to evaluate these new players as quickly as possible. He said that he tried to "look at the way he stands. I suppose you look at his body language as well so you can tell whether they are actually up for it...When you've bowled the ball and followed through then I would sort of look at the batsmen and see what sort of signals he was giving out." Gautam then used this information to then exploit any apparent weaknesses.

*Understanding conditions.* Gautam had learned to evaluate environmental conditions and adapt his bowling to suit these perceived demands. In order to assess the conditions he said that "after I've bowled a couple of balls I can tell what the ball is doing." Again, previous experience assisted him: "If we play away somewhere I've never played before I might go out and bowl and expect things to go a certain way, but if they don't you've got to have a bit of a re-think and deal with it on your feet."

#### Proactive Psychological Strategies

Gautam used psychological strategies to proactively build his confidence and maintain concentration. They were proactive in the sense that he used these skills when he anticipated they would be required.

*Confidence building.* It was very important to Gautam to nurture and protect his confidence in order to manage the pressures of being a professional cricketer. He said that "people who have done very well at the very top level, I think a lot of it is self-confidence, even on days when things aren't going very well for them they've got a lot of confidence." He used a number of techniques to build his confidence levels, but

thought, "previous results often determine confidence a lot of the time." He recalled previous performance accomplishments against the particular opponent ("Before I start I would look back at when I've done well against the opposition. I suppose it's more of a confidence boost if anything, to give myself a bit of a gee up"). He practised in the nets on the morning of one game because that gave him "the confidence that I've done it in the nets for half an hour, so once the game starts I can put that into practice." He also engaged in mental rehearsal ("remembering and playing back what I've done in the past") and self-talk ("I might talk myself up a bit more").

*Maintaining concentration.* Concentration was an important factor in cricket because "It's a long day trying to concentrate all the time." Gautam had developed the ability to switch his concentration when required, and he had a prepared concentration routine that he activated for every ball he ever bowled. This routine was: (a) Think about the previous ball as you are walking back and then think about what you are going to do with the next ball; (b) Pause at the start of the run to get a clear idea in your mind of what you are going to do (c) Once you start to run in stick with your decision, do not change your mind.

#### Reactive Psychological Strategies

In addition to the proactive strategies previously outlined, Gautam possessed two more reactive skills that he used when he appraised poor personal performance levels. These reactive skills were resilience and self-talk.

*Resilience.* Gautam coped with mistakes by displaying resilience (the ability of bounce back). He used resilience on a very specific level after a bad ball: "If you bowl a bad ball you can get away with it really, even if you get hit for fours and sixes it's no great problem because you just go back and bowl the next ball." He was also resilient on a day-to-day basis: "If I do have a bad day, which obviously everybody is going to do, then I'm reasonably confident that it's not going to get me down for the rest of the week or something and I'm able to come back the next day."

*Self-talk.* During competition Gautam used self-talk quite extensively. If he was bowling badly he would say to himself: "you know that's not good enough, you've got to start doing this." He continued, "I suppose I say what I'd say to other bowlers if I wasn't happy with what they were doing. I'd try and say the same things to myself before anyone else did." The content of his self-talk appeared to be a mixture of positive and negative comments. For example, he said "if I've been hit for four I'll give myself a bit of a rollocking, but then as I get back to my starting mark then I would be starting to think about the next ball instead of the previous one. I never try to bowl a ball without having a positive idea of what I'm going to do."

#### Discussion

The findings of this case study make two potentially significant contributions to the stress and coping in sport literature. First, the results indicated that appraisals (and subsequent coping responses) are goal directed (Lazarus & Folkman, 1984) and support the notion that higher levels of anxiety in sport are encountered when personally relevant goals are believed to be endangered (Lewthwaite, 1990). Lazarus (1999) suggested that goal commitment is the most important appraisal variable because without this the individual has nothing at stake. Examining personal goals and beliefs as part of the research approach helped produce this important finding. Although it is difficult to examine the impact of personal background information in traditional research designs, future investigations that attend to personal histories and salient goals, values, and beliefs are likely to advance appraisal-coping research.

The second significant implication is that Gautam used qualitatively different coping strategies to deal with different situational appraisals. Proactive coping strategies appeared to be employed in situations where Gautam anticipated threat (i.e., the potential that harm might occur). Alternatively, reactive coping strategies appeared to be deployed following primary appraisals of harm/loss (i.e., when damage had already occurred following mistakes). The suggestion that different appraisals result in the use of different types of coping has been supported in the non-sport coping literature. McCrae (1984) adopted a situation specific approach and found that people used different coping strategies to deal with challenge, threat, and harm/loss. Such situation specific investigations of appraisal and coping in sport represent important future research directions.

Following threat appraisals Gautam used confidence and concentration strategies as proactive coping measures. It has been suggested that preventative coping (i.e., coping used to deal with anticipated problems) is an important coping mechanism in non-sport settings (Peacock, Wong, & Reker, 1993). Gautam's proactive psychological skills served a preventative coping function and appeared to form an important part of his coping repertoire.

Following harm/loss appraisals Gautam demonstrated resilience and used self-talk. The content of both these reactive coping strategies involved cognitive efforts to change the meaning he attached to the situation, and therefore served an emotion-focused coping function. It is proposed that emotion-focused coping will be effective in situations that are perceived as uncontrollable (Lazarus & Folkman, 1984). Given that Gautam employed emotion-focused coping after a mistake, it is likely he perceived this as an

uncontrollable situation (i.e., the mistake had already occurred), and therefore attempted to deal with his emotional and cognitive responses to the stressor.

Gautam also possessed a set of general coping behaviours that he used in all competitive situations. The categories of evaluation and planning (along with proactive psychological skills) represent problem-focused coping strategies that Gautam used to get opponents out. Theory suggests that problem-focused coping is likely to be most effective when situations are appraised as being controllable (Lazarus & Folkman, 1984). It is plausible that, through experience, Gautam had developed perceptions of control over apparently uncontrollable performance elements. For example, whereas environmental conditions are clearly uncontrollable, understanding the implications of these conditions for performance, and adapting skills and techniques to make the most of these conditions are controllable skills. It appeared that Gautam had developed an understanding of his own reactions to a range of situations.

Although the results of this study corroborated previous coping research, the exclusively performance-related nature of the stressors Gautam identified differed from previous findings. For example, Noblet and Gifford (2002) showed that professional athletes faced a range of in-direct performance stressors (e.g., job insecurity), but Gautam's concerns were exclusively related to direct performance issues (taking four wickets). It is plausible to speculate that Gautam had learned to make distinctions between his professional career and personal life. Clearly further research is required with experienced professional athletes to understand more about what types of stressors they experience and how they cope with such situations. Daily diaries approaches to assessing coping provide an alternative to psychometric measures and may be useful in examining coping longitudinally (Porter & Stone, 1996).

This study raises several applied implications. Given that Gautam had successfully managed an extensive professional sport career and reached the top level of his profession, it is likely that the coping strategies he possessed were relatively effective. As such, these strategies offer a potential foundation for teaching coping skills to young athletes. The sport-specific nature of the coping skills identified will be particularly useful for developing talent in the sport of cricket, but may also be transferable to other fielding games (i.e., baseball, softball). Future research with more professional athletes will strengthen the empirical basis for applied interventions even further.

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## Identify the outcome standard of karatedo coaching programs

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### **Abstract:**

The aim of study is identify the outcome standard of karatedo coaching programs. Application of Bloom's theory and CDIO (conceive, Design, Implement, Operation) and refer some coaching programs from the other sports to initially set up the benchmarks corresponding output 3 coaching programs level A, B, C. Interviewing 27 experts and senior coaches to adjust the initial criterias. Results obtained through Cronbach's alpha showed that they are greater than 0.6, the Corrected correlation item total variables are greater than 0.3, so this is a good measurement scales. Next, to conduct Exploratory factor analysis through KMO and Bartlett test with Varimax rotation analysis of the initial criterias. Analysis results showed the Sig = 0 (<0.05), KMOs are larger (> 0.5), so the observed variables are correlated with each other and allow exploring factor analysis is appropriate. Conducting survey 27 educators, scientists, 30 management staffs, the employers and 94 coaches shows outcome standard of karate coaching program in level A, B, C received approval at a high level, mostly on 4 points and the others are nearly 4 points according to the Linkert scale. Outcome standard of coaching programs level A has 11 criterias, 10 criterias in level B and 9 criterias in level C. These criterias reflect the competencies required by the program is committed to bring the coach when they participate in training and having experience at all levels.

Keywords: karatedo, outcomes, curriculum, CDIO, coaching

### **Introduction**

Currently, most of the world sports federations and national sports federations, systems trainer training and certification practice to varying degree levels. Attending courses and exams for each level is seen as mandatory for sports coaches: FIFA's coaching program, volleyball (FIVB), basketball (FIBA), athletics (IAAF), swimming (FINA), Taekwondo (WTF), Judo (JKF), Karate (WKF). Some countries have systems training karate coach for many years, Vietnam has promoted their superiority in the training of high-quality training based on outcomes: Japanese Karate Federation stool members of the sect, the French Karate Federation, American Karate Federation ... with such importance but in Vietnam in general and Hochiminh city in particular is not systematically trained Karate coach with hierarchy obvious level, this is what needs to be soon built and put into operation, contributing to sustainable development Karatedo means strategic solutions contribute to the development of human resources for Karatedo, (2) application of science in teaching and training, (3) modular program design modern knowledge-based outcomes.

Karatedo Ho Chi Minh City is a strong in Vietnam, but to build coaching programs suitable needed to identify outcomes standard factors based on the requirements of the knowledge, skills and the interaction with the environment practice. So far, no any research projects in Vietnam identified learning outcomes standard factors as a basis for designing karatedo coach programs was announced. Before gaps need additional information timely and urgency of the matter, the opinion survey of stakeholders about the outcomes of karatedo coach programs is essential.

### **Methods**

Subjects: Investigating 27 experts, 94 coaches and 30 management staff to determine the outcome standard factors of the karatedo coaching program.

Methodology and study design: CDIO applications and Bloom's theory to design outcomes for coach karate. Direct interviews with pre-designed questionnaire replies 5 levels according Linkert scale. The expected distribution criteria according to 3 levels: coach Level A for senior team, coach level B junior, coach level C for gifted athlete and teaching in club.

Step 1: Consult the organization's criteria for standard CDIO output capacity of undergraduate students under the CDIO syllabus includes: 4 group-oriented criteria for Level 1, 14 group criteria for Level 2.

Step 2: Edit the CDIO criteria, combined with reference to some programs of other sports federations; Expert interviews and uses statistical algorithms to determine the criteria for matching karate coaching at all levels.

Step 3: Surveys of educational specialists, sports scientists about the outcomes standard factors of the karatedo coaching program.

Step 4: Surveys of karate coaches in Ho Chi Minh City on outcomes standard factors of coaching programs.

Step 5: Surveys of managers, representatives of labor recruitment agencies to consider the needs of the social demands for the capacity of the coach after completing the programs.

Step 6: Summary of comments, last revised and launched formal outcomes standard factors for karate coach at the levels

Statistics: Using SPSS 16.0 software for statistical processing, calculations of average, standard deviation, testing Cronbach's alpha, factor analysis discovered EFA, testing KMO and Bartlett to calculate and analyze data.

### Results And Discussion

Synthesis and preliminary determine the outcome standard: Application of Bloom and CDIO theory, the study has formed the preliminary outcome standard include knowledge systems, skills and attitudes to interact with environment practice. In it, both 3 program levels are the core part of the knowledge, understanding of the principles and methods of training, knowledge of anatomy and human function, knowledge of competition law, first aid and safety in training. However, each level of the program to different objects so training requirements are also different outcome standards.

Consultation conducted 27 education experts at a number of universities and some karate coaches who has extensive experience in Vietnam to conduct calibration standard output accordingly (5 persons have doctorate degree, 15 persons have master's degrees and 7 persons have bachelor's degrees). Results showed 100% interview suggested that karatedo coaching programs should be created in 3 levels: Level A: the coach is targeted at senior athletes. Level B: the coach is targeted at junior athletes, coaches get a better understanding of their responsibilities in the advanced level and prepare the necessary conditions for them to pursue level A. Level C: the coach is targeted at gifted athletes and teaching skills at the club, the program focuses on the discussion of topics related to coaching skills, giving them have the meeting real experience.

Calibrate and verify the relevance of expected outcome standard: This questionnaire has been pre-testing, conduct editing by-step and Cronbach's alpha coefficient ensures perform official survey. According to test results showed Cronbach's alpha coefficients are greater than 0.6, the Corrected Correlation Item Total variables are greater than 0.3, so this is a good measurement scales.

Level A: 8 criterias of knowledge (Cronbach's Alpha 0814). 2 criterias of practical skills (Cronbach's Alpha 0918)

Level B: 7 criterias of knowledge (Cronbach's alpha 0.890). 2 criterias of practical skills (Cronbach's Alpha 0859)

Level C: 6 criterias of knowledge (Cronbach's Alpha 0881). 2 criterias of practical skills (Cronbach's Alpha 0821).

After verifying the reliability of the questionnaire through Cronbach's alpha index, to finance continued accreditation criteria is expected outcomes standard of each level coaching program. It can be considered benchmarks draft output standard variables used Exploratory Factor Analysis - EFA for consideration at the next step.

Table 1. Result of verifying the variables as criterias of outcome standard of karate coaching programs

	Code	Corrected Item Total Correlation	Cronbach's Alpha if Item Deleted
Level A: Coach for senior athletes			
<i>Criteria for knowledge: Cronbach's Alpha 0.814</i>			
Knowledge of technical and tactical training	KA1	0.704	0.736
Knowledge of sport psychology	KA2	0.346	0.805
Design a training plan	KA3	0.330	0.791
Knowledge of first aid	KA4	0.675	0.726
Methodology of training	KA5	0.671	0.729
Managemernt karatedo team	KA6	0.581	0.749

Applied information technology in training	KA7	0.617	0.740
Applied competition law in training	KA8	0.352	0.796
<i>Criteria for skill: Cronbach's Alpha 0.918</i>			
Practical skill for physical fitness	SA1	0.579	0.643
Practical skill for technical training and competition	SA2	0.627	0.699
First aid skill	SA3	0.399	0.894

Level B: Coach for junior athletes

*Criteria for knowledge: Cronbach's Alpha 0.890*

Overview of training junior athletes	KB1	0.395	0.844
Identification and selection junior athletes	KB2	0.705	0.768
Training methodology for junior athlete	KB3	0.662	0.777
Human physiology	KB4	0.697	0.776
Fitness training methodology	KB5	0.716	0.767
Technical & tactical training method training for junior athlete	KB6	0.452	0.815
Knowledge of first aid	KB7	0.539	0.803
<i>Criteria for skill: Cronbach's Alpha 0.869</i>			
Practical skills for physical fitness	SB1	0.685	0.701
Practical skills for technical training and competition	SB2	0.531	0.608
First aid skill	SB3	0.429	0.842

Level C: Coach for gifted athletes/ Club coaching

*Criteria for knowledge: Cronbach's Alpha 0.881*

Psychological and physiological characteristics of junior athlete	KC1	0.815	0.833
Safety and First aid	KC2	0.482	0.800
Basic of methodology training for gifted athlete	KC3	0.695	0.862
Identification and selection gifted athlete	KC4	0.798	0.843
Basic of Karate rules of competition	KC5	0.793	0.846
Karate history	KC6	0.629	0.872
<i>Criteria for skills: Cronbach's Alpha 0.821</i>			
Practical skills for physical exercise	SC1	0.375	0.696
Practical skills for technical training and competition	SC2	0.445	0.701
First aid skill	SC3	0.480	0.747

The reliability of variables to be considered through the EFA discovered through testing KMO and Bartlett with Varimax rotation analysis variables in the outcomes standard observed karatedo coaching program at levels A, B, and C.

When using EFA, the KMO and Bartlett via testing with Varimax rotations we need to pay attention to two important indicators are:

*Significance level Sig:*  $H_0$  hypothesis arises between the observed variables in the overall no correlation with each other. If  $Sig \leq 0:05$   $H_0$  hypothesis is rejected, ie between the observed variables in the overall correlation with each other.

*KMO coefficient:* KMO coefficient reached 0.5 to 1, the factor analysis is appropriate.

Table 2. Result of KMO coefficient and Bartlett testing

Level A		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.685
Bartlett's Test of Sphericity	Approx. Chi-Square	155.043
	df	55
	Sig.	0
Level B		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.725

Bartlett's Test of Sphericity	Approx. Chi-Square	169.302
	df	45
	Sig.	0
Level C		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.747
Bartlett's Test of Sphericity	Approx. Chi-Square	175.286
	df	36
	Sig.	0

The results of analysis through the criteria shows Sig = 0 (<0.05), KMO are larger (> 0.5). So can comment that the observed variables are correlated with each other and allow exploring factor analysis is appropriate.

Survey results choose the official outcome standard of karatedo coaching programs: Conduct interviews according to the Likert scale: Needed = 5 points, Necessary = 4 points, No opinion = 3 points, Less necessary = 2 points, No need = 1 point, for benchmarks corresponding outcome standard of karatedo coaching programs.

On target outcome standard of programs level A: experts appreciate, with 7/11 at 4 points above criteria, the criteria on 3 points remaining at high levels. Similarly, the coach is endorsed 7/11 highs with 4 points above criteria, the remaining criteria on approaching 3 points 4 points (3.67-3.95 points). The managers, who represent employers, directly managing the work and personnel training, said 5/11 4 points above criteria and the criteria on 3 points remaining at very high levels (3:53 -3.93 points).

On target outcome standard of programs level B: experts appreciate, with 6/10 4 points above criteria, the criteria for remaining on the 3 points at a high level. Similarly, the coach is endorsed 6/10 highs with 4 points above criteria, the remaining criteria on approaching 3 points 4 points (3.80-3.99 points). The managers, who represent employers, directly managing the work and personnel training, said 4/10 4 points above criteria and the criteria on 3 points remaining at very high levels (3.77 -3.93 points).

Table 3. Interview results outcome standard of karatedo coaching programs

Code	Specilists (n=27)		Coaches (n=94)		Managers (n=30)	
	Mean	SD	Mean	SD	Mean	SD
Level A						
KA1	4.48	0.75	4.55	0.71	4.23	0.94
KA2	4.19	0.74	4.51	0.6	4.10	0.84
KA3	3.59	1.08	3.93	1.01	3.83	0.99
KA4	3.89	1.22	3.99	1.13	3.97	1.30
KA5	3.67	1.04	3.67	1.05	3.53	1.01
KA6	3.96	0.85	3.88	1.03	3.80	1.06
KA7	4.15	0.99	3.95	1.13	3.70	1.32
KA8	4.26	0.86	4.35	0.74	3.93	0.94
SA1	4.33	0.92	4.37	0.82	4.40	0.81
SA2	4.56	0.70	4.64	0.58	4.70	0.53
SA3	4.19	1.04	4.07	1.10	4.03	1.07
Level B						
KB1	4.30	0.82	4.44	0.74	3.93	0.94
KB2	4.11	1.12	4.03	1.27	4.10	0.96
KB3	3.67	1.24	3.99	1.20	3.77	1.25
KB4	4.04	0.90	4.02	0.89	3.87	0.94
KB5	3.93	1.11	4.18	0.96	3.90	1.09
KB6	4.48	0.64	4.43	0.74	4.17	0.83
KB7	3.78	1.25	3.89	1.18	3.83	1.34
SB1	4.11	1.01	4.21	0.87	4.17	0.99

SB2	4.30	0.82	4.40	0.82	4.43	0.90
SB3	3.93	1.14	3.80	1.20	3.80	1.35
Level C						
KC1	4.11	1.15	4.15	1.09	3.87	1.11
KC2	3.78	1.25	3.81	1.19	3.77	1.33
KC3	4.19	0.92	4.20	0.95	4.13	0.86
KC4	3.96	1.34	3.98	1.33	3.97	1.10
KC5	4.11	0.97	3.95	1.16	3.83	1.09
KC6	4.19	0.83	4.03	1.10	3.73	1.23
SC1	3.93	1.00	4.18	0.97	4.43	0.86
SC2	3.81	1.14	3.81	1.12	4.20	0.85
SC3	3.89	1.22	3.87	1.18	3.93	1.08

On target outcome standard of programs level C: experts appreciate, with 4 4/9 points above criteria, the criteria for remaining on the 3-point high (3.78-3.96 points). Likewise, coaches is high with 4/9 approval criteria on 4 points, the remaining criteria on approaching 3 points 4 points (3.81-3.98 points). The managers, who represent employers, directly managing the work and personnel training, said on 4 3/9 criteria and the criteria points on 3 points remaining at very high levels (3.77 -3.97 points). Survey results showed that all items are asked fairly high average value, many criteria are rated very high on 4.5, so it can be concluded that the outcome standard for skills and knowledge to be taken a perfect fit, received high approval of the coaches themselves, stakeholders are educators, scientists, managers and labor users.

#### Conclusion

Through the steps of research, the study identified outcome standard of karatedo coaching programs: Level A has 11 criterias, level B has 10 criterias and level C has 9 criterias. Opinion surveys educators, scientists and managers, employers and coaches shows outcome standard of karatedo coaching programs at level A, B, C was endorsed at a high level. These criterias reflect the competencies required by the program is committed to bring the coach when they participate in learning and experience at all levels.

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## An Investigation Into The Tendency To Choose The Optional Sports Of Students At The University Of Danang

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### Abstract

Physical Education is one of the subjects that students can choose to learn and practice in colleges and universities around the world as well as in Vietnam. To examine the factors affecting the choice of student coursework, research was done on 936 students through questionnaires. The results showed that football, badminton, volleyball, basketball are the popular sports that most of students would like to choose to learn. The factors affecting the choice of the course are the understanding of the subject; the suitability of individuals and characteristics of subjects. Finally, based on these results, some recommendations will be given to the physical education department and sports to help them to develop courses, curriculum and teaching methods that are suitable for the expectations of the students.

**Key words:** Physical Education; sport; football; badminton; volleyball; Course selection of students

### Statements of problem

Physical education in school is a strategic mission of Vietnamese sport. This point has been made clear in constitution 92 (section 41) of the seventh Secretariat of the Communist Party of Vietnam and many more documents of the government. The strategic position of sport includes physical education in school being an important part of education and the base to develop sport talents. Physical education is actually a form of human investment since it is necessary for a person's universal development.

From the statistics of American economic expert collected in fifty years (1900-1959), it can be seen that profits increase by 3.5 times if physical investment increases by 4.5 times. However, if human investment increases by 8.5 times, profits will increase by 17.5 times. According to them, countries with high human investment also invest a lot into sport and physical education. As a result, those countries' profits will also increase.

One of the most urgent matters of Vietnamese education at this moment is changing teaching and learning methods following the idea of teachers being the guide to help learners (who are the center) obtain knowledge on their own [1]. According to Merrill Harmin and colleagues, they show that "people can only learn 10% of what they read, 20% of what they hear, 30% of what they see, 50% of what they hear and see at the same time, 70% of what they discuss, 80% of their personal experience, 90% of what they teach others"[2]

Nowadays, with the development of science and information technology, people have less chance and time to train and develop their physical traits in order to improve their health for their work and study. Attracting students into physical activities and sport competitions is an important strategy to increase their health, their endurance and their capabilities to adapt to the society's development. Understanding the trend of choosing the suitable sport for different ages, psychological traits and tastes to create a base to build an education program that is both tempting and diverse is the purpose of this research.

### Methodology

### **Subjects and their information**

Nghiên cứu sử dụng phương pháp chọn mẫu thuận tiện (phi xác suất). Đây là phương pháp mà trong đó nhà nghiên cứu tiếp cận với các phần tử mẫu bằng phương pháp thuận tiện. Nghĩa là nhà nghiên cứu có thể chọn những phần tử nào mà họ tiếp cận được. Lí do: để đạt chi phí thấp, thực hiện trong thời gian. Hạn chế của phương pháp này là tính đại diện của mẫu không cao. Tuy nhiên, để khắc phục điều này, chúng tôi chọn kích thước mẫu tương đối lớn. Nghiên cứu dự định thu về hơn 700 bảng câu hỏi.

The research uses the convenient object choosing method (non-probability). In this method, the researchers approach the subjects in a convenient way. This means that the researchers can choose the subjects that they can approach. The reason for this is to save the fee and time. The drawbacks of this method is that the subjects' representativeness is not high. However, to overcome this, a relatively big population of subjects is chosen. We expect to receive 700 responses.

### **Data collecting organization**

The data collecting method used is interview through Internet using google.doc to design the questionnaires. The questions are designed on google.doc and the ones in charge of collecting the answers are the PE teachers of the students. The collecting was carried out in 4 weeks, from March 16th to May 15th with 936 qualified responses received.

### **Research process**

This research is carried out through two main phases: first research with group interviews and official research using quantitative method.

The first research is conducted through group interviews method. These interviews consist of groups of ten people and hours of discussions. Details of a group: Students are divided into groups for discussion with the role of clearing the matter. Editing, skipping or adding questions was conducted in this first phase of research.

The official research is conducted with quantitative method. This research aims at checking the evaluation standards, which is the research model.

The standards are checked through two steps: exploring factors analysis (EFA) and analyzing the reliability of the standards with reliable Cronbach alpha factor conducted through statistics processing software SPSS 18.0. After having all the factors, regression analysis is carried out to evaluate the research model.

## **Results and discussion**

### **Subjects description**

After the distribution, the researchers receive 936 qualified responses. Among them, 50.5% are from male students and 49.5% are from female. Most of them are freshmen and sophomores from colleges and universities with the portion of students born in 1996 take 95.1%. The responders are distributed equally among the member of the Universities of Da Nang. Specifically, 21.75% of the students are from the university of technology, 35.1% are from the University of Economy, 20% are from the University of Foreign Languages Study, College of Information Technology and The Medical department.

### **The prioritized sports**

In general, 32.7% of students prioritize soccer. After that is the portion of students who prioritize badminton with 28.2% and volleyball with 12.8%. The other sports such as basketball, martial arts, Aerobic have relatively equal portion (about 8%). Ping pong, dodge ball are the ones that receive the least attention from the students with only 2% of the students think of them as the first priorities. Yoga or dancing are also not prioritized much among the students with the statistics of 6.9% and 4.8%

In terms of gender, male students seem to favor soccer more than female ones do. 248 out of 473 male students choose soccer as their first priority if they can choose the subjects (more than 50%). Right after that is badminton with 102 students (22%). Yet, only 58 out of 463 female students prioritize soccer (12.5%)

The trend of female students is different. The rate of priority is distributed quite diversely instead of focusing on one or some subjects like the male. The result of Analysis show that the portion of students who prioritize badminton is the largest with 162 out of 463 students (35%). After badminton are aerobics and volleyball with the same portion (15%)

In conclusion, there are two clear trends. Most male choose soccer as their priority, followed by badminton. On the other hand, the first priority of girls is badminton, followed by Aerobic and volleyball.

**Factors affecting students' choices**

*Exploring Factor Analysis (EFA)*

KMO and Bartlett check in factors analysis shows that KMO is quite high (0.921-> 0.5) with the rate of meaning as 0 (sig=0.0000). This shows that the data is qualified for factors analysis.

After two times of Exploring Factors Analysis, deleting the DDM.1 factor due to low weight:

**Table 1: Exploring Factors Analysis (EFA)**

EFA result	Factors		
	1	2	3
DDCN,3	,843		
MDSH,4	,841		
DDCN,4	,818		
MDSH,1	,766		
HBM,1	,763		
DDCN,2	,720		
MDSH,2	,682		
MDSH,3	,670		
HBM,2	,657		
HBM,3	,625		
CA,7		,787	
CA,6		,775	
CA,8		,768	
CA,4		,740	
CA,5		,724	
CA,2		,700	
CA,3		,677	
CA,1		,658	
HB,.4		,508	
DDM,4			,732
DDM,3			,723
DDM,2			,702
DDM,5			,666
DDCN,1			,616
Variance extracted (%)	24,794	20,958	12,502
Total variance extracted (%)	58,254		

With the method of factor extraction Principal components and the Varimax rotation. Four factors were extracted with 58.254% variance extracted (Hair& al (1998). The requirement is that the variance extracted must not be lower than 50%. As a result, 57.663% variance of the data is explained by these four factors. The variance extracted is qualified. Based on the Rotated Component Matrix, all the variants have factors load coefficient bigger than 0.5 (0.508 is the lowest) so no variants is deleted after that.

- *Standards reliability check.*

After the EFA analysis, we recheck three variance extracted from table 1 with Cronbach alpha coefficient and get the results below

**Table 2 Standards Reliability Check**

Observed variants	Average standards	Standard variance	correlation between	Crombach Alpha
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	if variants deleted	if variants delted	variants and sum	coefficient if variants deleted
Factor 1 - Cronbach's Alpha = 0.919				
DDCN,3	31,0417	69,191	,770	,906
MDSH,4	31,2703	70,266	,789	,906
DDCN,4	31,3686	69,185	,775	,906
MDSH,1	31,6400	70,519	,730	,909
DDCN,2	31,3825	70,703	,692	,911
HBM,1	31,4904	71,902	,704	,910
MDSH,3	31,7489	71,750	,671	,912
MDSH,2	31,6709	72,249	,665	,913
HBM,2	31,6891	73,472	,586	,917
HBM,3	31,6592	73,842	,582	,917
Factor 2 - Cronbach's Alpha = 0.898				
CA,1	21,2500	52,423	,624	,890
CA,2	21,2682	52,502	,655	,887
CA,3	21,1325	52,265	,616	,890
CA,4	21,1421	50,659	,734	,881
CA,5	21,2265	51,820	,678	,885
CA,6	21,4167	52,534	,699	,884
CA,7	21,3408	52,336	,690	,884
CA,8	21,1774	51,173	,738	,881
HBM,4	21,0972	54,946	,531	,896
Factor 3 - Cronbach's Alpha = 0.827				
DDM,2	11,2179	15,148	,626	,791
DDM,3	11,3739	15,422	,637	,789
DDM,4	11,1613	14,520	,666	,779
DDM,5	10,9626	15,063	,624	,792
DDCN,1	11,2329	15,946	,561	,809

The results show that all three factors have Cronbach alpha variants bigger than 0.6 and all observed variants have correlation between variants and sum bigger than 0.3. So, the standards are qualified in terms of number. As a result, this is the final EFA that will be used in the upcoming analysis.

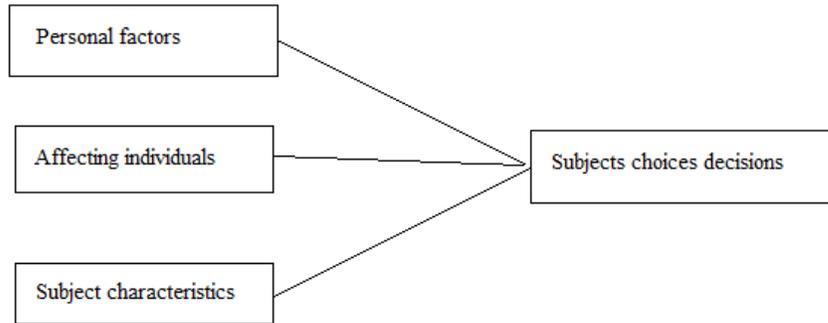
The results also show that there are some changes in observed variants of the factors that affect the students' decisions to choose subjects:

- *Factor 1* includes 10 observed variants: DDCN.3, MDSH.4, DDCN.4, MDSH.1, DDCN.2, HBM.1, MDSH.3, MDSH.2, HBM.2, HBM.3. In general, most of them are variants of the group *personal traits, understanding about the subjects, the capabilities to meet the expectations after learning*. It can be seen that, this is also a *personal traits* so it is named *personal factors*

- *Factor 2* includes nine observed variants CA,1, CA,2, CA,3, CA,4, CA,5, CA,6, CA,7, CA,8 HB,.4. We can see that seven out of the eight above factors are of affecting factors. As a result, this group retains the old name *affecting individuals*.

- *Factor 3* includes 5 observed variants DDM.2, DDM.3, DDM.4, DDM.5, DDCN.1. It can be seen that 4 out of the above 5 factors are of subject special characteristics. So this group retains the name *Subject Characteristics*

With the above results, the model was changed into:



**Picture 1: Research model**

H1. Personal factors such as understanding about the subjects, expectations after learning and personal traits that are related to the decision to choose that subject.

H2: Affecting individuals that are related to the decision to choose the subject

H3: Subject characteristics that are related to the decision to choose that subject.

### **Suggestions**

From the described statistics and analysis, some suggestions were made:

- Allow the students to choose subjects following their hobbies, specialities, the need to practice that meets their health status while learning and maintain the training of their favorite sports after graduation

- If the students want to sports that are both their hobbies and their forte, they need to build a more intense training program, organize tournaments in their subjects and are chosen. Organize enhanced sport classes for students with talents in sports.

- Employing teachers and trainers with suitable professional knowledge and build gyms to grant the students' needs to create a universal education environment.

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## Individual Factors Affecting Regular Participation Of Tehran's Citizens In Leisure Time Sport Activities

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### Abstract:

The purpose of this study was to determine individual factors affecting participation of Tehran's citizens in leisure time sport activities. The research method was descriptive – correlation and the statistical sample consisted of 335 of Tehran's citizens who have regular participation in leisure time sport activities. The research instrument was a researcher made questionnaire. The face and content validity was approved by opinion of sport management instructors and the reliability was verified by the coefficient of Cronbach's alpha, ( $\alpha=0.86$ ). The SPSS18 was used for description of variables and LISREL software was used for doing Confirmatory Factor Analysis. The result showed "skills" have the most amount of factor loading (1.02), amount of psychological characteristics factor loading was 0.97, knowledge factor loading was 0.91 and amount of motivations and physical characteristics factor loading were 0.77 and 0.63 respectively. It can be concluded skills such as sport skills, social skills and cognitive skills has the most effect in participation in leisure time sport activities

**Key words:** Sport activities, Leisure time, Individual, Factors

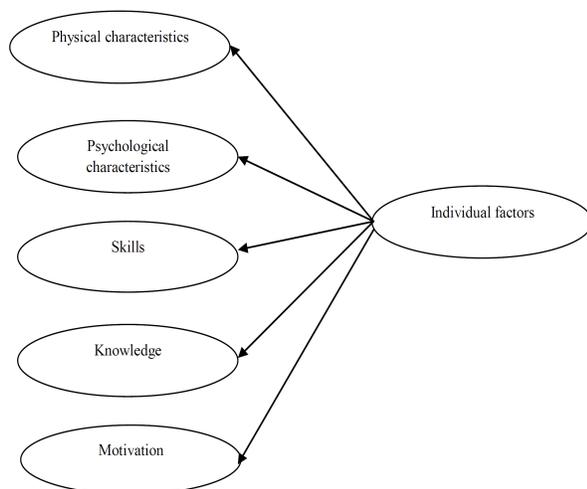
### Introduction

Although physical activity has been associated with a lower risk of some types of cancer, cardiovascular disease, diabetes, and obesity, a large proportion of the population remains insufficiently physically active (Ishii, 2010) and participation in sport and unstructured physical activity has a range of benefits for adolescents, including increasing the capacity for learning, promoting social well-being, physical and mental health, and introducing skills such as teamwork, self-discipline, leadership and socialization (Craike et al, 2011) physical inactivity is currently acknowledged as a serious public health burden throughout the industrialized world (Spence & Lee, 2003).

Many factors influence participation in leisure sport activities and Understanding the factors influencing PA behavior in a specific population is an important prerequisite to designing and tailoring effective intervention programs for the target population (Li, 2010). As one of the main factors affecting health related behaviors, individual factors have been studied in many societies (Glanz et al, 2008). Nishida et al (2003) declared psychological factors have significant effect on physical activity of Japanese women. The result of Humbert et al (2006) research showed some individual factors such as perceived skills and competencies affect sport participation of youth people. In this respect Eime et al (2014) reported perceived competence is a barrier to participate in physical activity and sport. With (2008) declared motivation has a significant effect on sport participation. Yan et al (2103) said some individual factors such as self efficacy, physical fitness, knowledge and self perception contribute to behavior of physical activity among young people.

Review of literature showed individual variables influencing on participation in leisure time sport activities are different in any society. So, because the level of sport activity in Tehran is very low and determining intrapersonal variables is an important step in policy making and designing recreational sport development strategies, the purpose of this study is the question that which individual factors affecting participation in leisure time sport activities according to the below conceptual model (fig 1).

**Fig1.**



**Conceptual model of individual factors affecting sport participation**

**Methodology**

The research method was descriptive – correlation and the statistical sample consisted of 335 of Tehran’s citizens who have regular participation in leisure time sport activities. The research instrument was a researcher made questionnaire. The face and content validity was approved by opinion of sport management instructors and the reliability was verified by the coefficient of Cronbach’s alpha, ( $\alpha=0.86$ ). The SPSS18 was used for description of variables and LISREL software was used for doing Confirmatory Factor Analysis.

**Results**

Descriptive statistics showed the average of respondents age was 35 years old. 41.5 percent of them were single and 58.5 percents were married. 61.5 percent were men and 38.5 percent were women. Other descriptive statistics is mentioned in table1.

**Table1: Descriptive Statistics**

Variables	Percentages					
Job status	Clerk: 27.1 %	Labor: 1.2 %	Student: 17.9 %	Business: 25.1 %	Unemployed: 20.6 %	Retired: 8.1 %
Income (per month)	100-300 \$: 24.5%	300-500 \$: 19.4%	500-700 \$: 7.8%	700-900\$: 2.4%	900-1100\$: 7.2%	>1100\$: 5.4%
Education	<Diploma: 4.2 %	Diploma:37.3 %	Technician: 9.9 %	Bachelor: 30.7 %	Master: 14.6 %	Ph.D.: 3.3 %
Sports that participants do	Fitness sports: 68.7 %		Racket sports: 4.5 %	Combat sports: 7.2 %	Swimming: 3.3 %	Team sports: 16.4 %

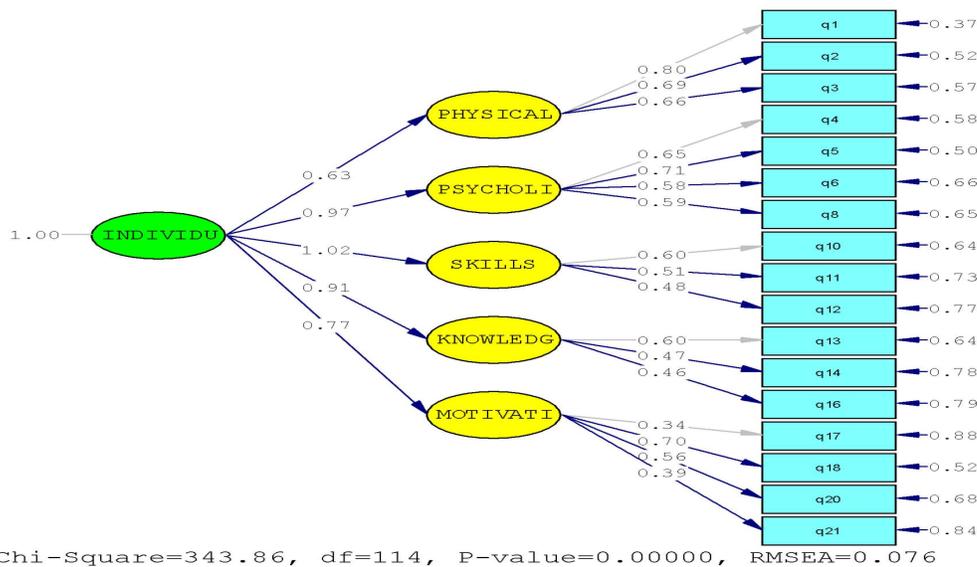
The results of confirmatory factor analysis (fig2) showed skills have the most effect in sport participation in leisure time.

Fig2. Confirmatory Factor Analysis of individual factors

**Discussion**

The results showed the percentage of men participation is more than women. It seems men have more interest in doing sport activities. Maybe, the situation isn't as suitable as to women participate in sport. Hanlon et al (2014) proposed three main factors to increase women participation in sport. These factors include making suitable environment for women sports, facilitating women participation and promotion of sport in society. Most participants do fitness sports. It means the main purpose of participants is to be health. In this regard Sirard et al (2006) reported having physical fitness is an important motivation for sport participation.

The results of confirmatory factor analysis showed skills have the most effect in leisure sport activity participation. The components of the skill include sport skills, social skills and mental skills. Different researches have emphasized on these variables. In this regard Elkins et al (2007) declared "learning sport related skills" is an important factor negotiating constraints of leisure sport participation. So, it is



recommended to prepare a situation for increasing the sport skills of citizens. For example paying attention to schools educational physical activity classes and educating sport skills to the students can be helpful in this respect.

The results factor loading of psychological factors was 0.97 and it means psychological factors have an important role in sport participation of Tehran's citizens. Psychological factors include interest, self efficacy, self regulation, self-confidence, positive outcome expectancy, will and determination and attitudes. In this respect Plotnikoff et al (2008) said among constructs of social cognitive theory, self efficiency has more effect on physical activities. In addition Li (2010) noticed self regulation has significant influence on leisure time physical activities. Yan et al (2103) said some intrapersonal factors such as self efficacy, physical fitness, knowledge and self perception contribute to behavior of physical activity among young people.

Knowledge is another important factor that has high amount of factor loading (0.91). It can be concluded having information about importance of sport and physical activities, treats of inactivity and sedentary behavior and suitable method of doing sports is necessary to participate regular in leisure time sport activities.

Motivation is another significant factor affecting participation of Tehran's citizens in leisure sport activities. Whit (2008) reported motivation make people use negotiation ways to overcome sport participation constraints. The results of Berger et al (2008) research showed motivation and attitude have significant influence on sport participation.

It can be concluded different individual factors such as gender, educational level, income, job status, skills, psychological characteristics, knowledge, physical characteristics and motivation affect participation of people in leisure time sport activities that should be regarded.

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## The Comparison of goal Orientation Between Male And Female Junior Hockey Athletes In Malaysia

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### Abstract

The main purpose of this study is to examine the differences of goal orientation as well as to identify the goal orientation among junior hockey athletes in Malaysia. A survey through questionnaires was conducted among 144 athletes. The instrument consisted of Task and Ego Orientation in Sports Questionnaire (TEOSQ; Duda & Nicholls, 1992). The results yielded that female hockey athletes had higher task orientation compared to male athletes. Male players had higher ego orientation. Independent sample t-test revealed that there were significant differences between male and female athlete in goal orientation. Female athletes were higher in task orientation while men athletes were higher in ego orientation. This study will provide guidelines for coaches in training and instructing players. Future studies should conduct qualitative approaches in order to get insights of the factors which may contribute to goal orientation among junior hockey athletes.

Keywords: *athletes, ego orientation, task orientation,*

### Introduction

Sports psychology plays a vital role in contributing to the performance of an athlete (Rohaty & Tajul Ariffin, 2011). Mental aspect is an integral part that exists in a competitive athlete including hockey players. An athlete should maintain an appropriate level of mental health to enable him to perform at optimal level in line with the existing potential (Anshel, 1997; Rohaty & Tajul Ariffin, 2011). To achieve this goal, psychological factors such as goal orientation, concentration and anxiety must be well controlled to produce the best performance. When the competition becomes more intense, greater mental resilience is required because motor skills gaps among athletes today are getting smaller. Success and failure in team sports, especially hockey is often associated with motivation, attention and arousal (Rohaty & Tajul Ariffin, 2011; Wann, 1997). Thus, the mental preparation for athletes before and during the competition is very important. According to Gill (2000), the purpose of a person involved in a physical activity is to achieve victory and achieve the objectives. In this study, the athlete's goal is reviewed from the perspective of task and ego goal orientation. Goal orientation may also be a determining factor to the success of athletes in a sports competition. Goal orientation is multidimensional, and it is associated with dimensions of activity, competitiveness and dominance and they pointed out that some people show their tendency to progress in making attempt to be superior over others (Nicholls, 1989). The two more widely used motivational theories for this context are: Achievement Goal Theory (Deci & Ryan, 1985) and Self-Determination Theory (Duda et al., 1995; Ryan & Deci, 2000). Achievement goal theory typically differentiates between two types of goal orientations: task and ego. Task orientation is related to developing competence by improving upon one's skills, personal competence and task mastery. It is assumed that task orientation will lead to positive and adaptive achievement behaviours (Tyson et al. 2009). Athletes with a task goal orientation tend to select and persist at challenging tasks because they value effort as a way to attain new skills.

Task oriented individuals tend to focus on increasing skill level. They tend to follow the rules, while playing ethically and working together to achieve a goal. It means that they focus on the process rather than just the result of a successful task (Roberts, 1992). What is important to task oriented athletes are "how they play the game" and not "whether they win or lose". In other words, engaging in

meaningful tasks that a person will focus on mastering the task rather than the result (Roberts, 1992). Task orientation is associated with the use of an equivalent conception of ability, where effort is seen to equal the term ability (Morgan & Carpenter (2002). In contrast, ego orientation is based on one's subjective evaluation of performance compared with that of others (Deci & Ryan, 1985). Ego oriented individuals tend to focus on the results of the competition. They are more motivated to demonstrate a high ability and avoid showing a low ability. The victory in the competition is the best way to show their abilities. Nicholls (1994) stated that individuals with high ego orientation show high level of effort and perseverance in sports. Instead, the ones who have low ego orientation may withdraw from the sports (Duda, 1992). Roberts (1992) also agreed that individuals who are high in ego orientation and perception about their abilities will be more motivated to join competition or contest. Today, it is known that athletes having as main target their personal improvement are intrinsically motivated, while athletes having as main target showing off their ego are mainly extrinsically motivated (Duda & Hall, 2001; Wang & Biddle, 2001). The purpose of the research is to examine the differences of goal orientation as well as to identify the goal orientation among junior hockey athletes in Malaysia.

### **Methodology**

**Material & methods :** This study adopted a quantitative research approach through survey. This section presents the sampling, measures, instruments, data collection and data analysis of this study.

#### **Sampling**

Data for the study were collected from 144 junior hockey athletes (72 males & 72 females), who ranged in age from 15 to 18 years (Mean = 16.38, SD = 0.92). An informed consent was obtained from each participant prior to the completion of the questionnaires.

#### **Instrument**

The TEOSQ (Duda & Nicholls, 1992) is a thirteen item questionnaire with seven items measuring task orientation and six items measuring ego orientation. When completing the TEOSQ (Duda & Nicholls, 1992), participants are requested to think of when they felt most successful in their sports and then indicated their agreement with items reflecting task and ego oriented criteria. Examples of task orientation items included "I work really hard" and "I do my very best", whereas on the ego orientation subscale there were items such as "The others can't do as well as me" and "I'm the best". The response scale was a Likert format ranging from 1 ("strongly disagree") to 5 ("strongly agree"). In the present study, the internal reliability coefficients were satisfactory, with  $\alpha$  0.84 for the task subscale and  $\alpha$  0.85 for the ego subscale.

#### **Data collection**

Field method is used for a data collection in this research. After arranging an appropriate time and with the agreement of authorities and team leaders, the researcher met up with the participants. All of the players were informed of the objective of the study, the voluntary nature of their participation, the absolute confidential nature of the answers given and the data produced by the study and that there were no right or wrong answers. They were also asked to respond with the highest degree of sincerity and honesty. After the researcher expounded on the purpose and significance of the research to the runners, the participants started filling in the questionnaires.

### **Results**

Table 1 presents the means and standard deviations for all the variables in the study. Female hockey players demonstrated more task orientation (Mean=4.09; SD=.45) than male hockey players (Mean=3.79; SD=.67). Male hockey players demonstrated more ego orientation (Mean=3.27; SD=.77) than female hockey players (Mean =2.90; SD=.88).

Table 1: Mean and Standard Deviation of TEOSQ subscales

Sub-scales	Male		Female	
	Mean	Std. Deviation	Mean	Std. Deviation
Task Orientation	3.79	.67	4.09	.45
Ego orientation	3.27	.77	2.90	.88

Table 2 present the independent-samples t-test of goal orientation between male and female hockey athletes. The result revealed that there were significant difference between the scores of female athletes (M=4.09; SD=.45) and male athletes (M= 3.79; SD=.67) in task orientation,  $t(142) = -3.162, p = .002$ . There were also significant difference between male athletes (M=3.27; SD=.77) and female athletes (M=2.90; SD=.88) in ego orientation,  $t(142) = 2.690, p = .008$ .

Table 2: Independent-samples t-test between male and female athlete

Subscale	t	df	Sig. (2-tailed)
Task Orientation	-3.162	142	.002
Ego Orientation	2.690	142	.008

## Discussion

The study shows that female athletes tend to be more task-oriented. The result is consistent with previous studies indicating that female athlete are more task oriented and men are more ego oriented (Anagnostou et al., 2013; Gomez-Lopez, 2013; Li et al., 1996; Sachau, 2013; Vosloo et al., 2009 & White et al., 1998). Moreover, task-oriented athletes tend to believe that sports would enhance cooperative skills, personal mastery, togetherness, and higher level of enjoyment (Pensgaard & Roberts, 2003). High-task orientation players practice sports for personal accomplishment purposes, and because of the experiences and sensations associated with this sports (Rohaty & Tajul Ariffin, 2011). Based on the theoretical perspective of goal orientation by Nicholls (1989), task oriented athletes are more resilient and able to practice the highest level of motivation to continue to participate in sports because their skills are good (Rohaty & Tajul Ariffin, 2011). This study also finds that males are more ego-involved than females. The results of this study are similar to those found by Vosloo et al. (2009) in their study of high school swimmers' goal orientations. Vosloo et al. (2009) hypothesize that males would be more likely to have high ego-involved goal orientations while females would be more likely to have high task-involved goal orientations. Ego orientation is positively linked with the belief that sports would increase career mobility, enhance one's popularity and, social status, and build a competitive spirit that tend to be associated with a lower level of motivation (Li et al., 1996). Other studies have found that ego oriented athletes adopt a normative conception of ability leading them to conclude that winning and beating others are their main priorities (Krane & Williams, 1994). These results are similar to those found by White & Duda (1994), who claimed that ego orientation was positively related to extrinsic reasons of practice.

In fact, athletes who have a high level of achievement motivation do more efforts than athletes who have low levels of achievement motivation (Wartenberg & Mccocheon, 1998). Furthermore, several previous studies have shown, when goal orientation of athletes is higher, athletes have more confidence and are well-prepared, causing them experience less competitive anxiety in racing (Gill et al., 1991). However, Omar-Fauzee et al. (2008) find no differences between male and female athletes in goal orientations as athletes have both high task and ego orientations.

## Conclusion

In conclusion, the results yield that male hockey players have lower task orientation and higher ego orientation compared to female players. This study will provide guidelines for coaches in training and instructing players. Future studies should conduct qualitative approaches in order to get insights of the factors which may contribute to the present findings.

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## Effects Of Selected Yogic Programme On Physiological And Psychological Variables Among Elderly People

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### Abstract:

The investigator selected 40 female subjects from vridhamandhiram at thavanoor, kutippuram, Kerala. The subjects were hypertensive with an age group of 60-75 years. Out of the 40 subjects, 20 were assigned as experimental group and the other 20 as control group randomly. Prior to the administration of test, the investigator held a series of meeting with the subjects and made clear the objectives and purpose of the study. The total duration of the training was 8 weeks. The training programme included yoga asanas and pranayama. The number of training session per week was confined to three day per week (Monday, Wednesday and Friday). Each training session started from 8 AM to 11AM with proper breaks. During this period, the control group was not given any training. The dependant physiological variables were blood pressure, resting heart rate and resting respiratory rate. The dependant psychological variable was anxiety. All the subjects were tested prior to and after training programme. To compare the mean differences between the initial and final score of the experimental group and control group the data was statistically analysed by applying descriptive statistics and dependent 't' –test. The significance was set at 0.05 level. The result of the study showed significant reduction in systolic blood pressure, diastolic blood pressure, resting heart rate, resting respiratory rate and anxiety level of the elderly female people.

Keywords: yoga asanas, pranayama.

### Introduction

The term Yoga is derived from the Sanskrit root 'Yuj' means 'union', bind together In English Yoga is 'yoke' , French , 'Joug' , German, 'Joch', Spanish 'Yugo' – all mean 'to join' Therefore , Yoga is usually defined as the union of Individual self or consciousness(Jeevatman) with the supreme self or cosmic consciousness(Paramatman.) Yoga is a positive life style. It ensures the physical, mental, societal and spiritual well being. Yoga believes that human body is a psychosomatic unit, that is the human being is made up of the combination of a Physical body, a Mind and a Spirit or Soul. They are so intimately connected. In other words, the three phenomena are so depended each upon the other, that any influence on one must affect the whole. Yoga keeps the body strong, as it involves all the muscles in your body to hold and balance yoga asanas (poses). Yoga's stretching and breathing exercises improves flexibility, helping joints, tendons, and muscles stay limber. A regular yoga practice helps boost antioxidants throughout the body, resulting in a stronger immune system and improved ability to heal quickly from disease or injury. Yoga can help reduce weight and maintain a healthy weight throughout your life.

### Methodology

Forty female subjects from vridhamandhiram at thavanoor, kutippuram, Kerala were selected. The subjects were hypertensive with an age group of 60-75 years. Out of the 40 subjects, 20 were

assigned as experimental group and the other 20 as control group randomly. Prior to the administration of test the investigator held a series of meeting with the subjects and made clear the objectives and purpose of the study. The testing procedure was explained to them in detail. They were requested to co-operate and participate actively in the same. The total duration of the study was 8 weeks. The number of training session per week was confined to three day per week (Monday, Wednesday and Friday). Each training session started from 8 AM to 11AM with proper breaks. During this period, the control group was not given any training. The dependant physiological variables were blood pressure, resting heart rate and resting respiratory rate. The dependant psychological variable was anxiety. All the subjects were tested prior to and after the training programme.

**Table 1: Selected test for physiological variables**

Sl. No	Criterion Variable	Test
1	Blood pressure	Sphygmomanometer and stethoscope
2	Resting heart rate	Radial pulse and carotid pulse
3	Resting respiratory rate	By counting the respiratory rate while lying in supine position

**Table 2: Selected test for psychological variables**

Criterion Variable	Test
	Spielberger, Gorsuch, Lushene, Vagg, & Jacobs) 1983.

**Administration of selected yoga programme**

**Table 3 - warm-up session**

Exercise	Duration	Set
Simple Stretching exercise	5-6 minutes	1
Brisk walking	10-15 minutes	1

**Table 4 - selected yoga programme**

	Yoga asanas	Repetition	Rest
	Anamaskara)	3 repetition	30 sec - 1 minute rest after each asanas
2	Vajrasana		
3	Sukhasana		
4	Udara karshana asana		
5	Sarala bhujangasana		
6	Eka pada uttanasana		
7	Pavama muktasana		
8	Sarala dhanurasanam		
9	Vrikshasanam		

**Table 5 - Pranayama session**

Pranayama	Repetition
Nadisudhi pranayama	3-4 times
Kapalabhati pranayama	
Nadisodhana pranayama	
Brahmari pranayama	

**Table 6 - Relaxation session**

Relaxation technique	Duration
Yoga nidra	15 minutes
meditation	20 minutes

To compare the mean differences between the initial and final score of the experimental group and control group the data was statistically analysed by applying descriptive statistics and dependent 't' – test.

#### Analysis Of Data And Results Of The Study

**Table 7: 't' Ratio of Experimental and Control group on Resting Heart Rate**

Control Factors	Pre test			Post test			t-ratio	Table Value
	N	Mean	SD	N	Mean	SD		
Experimental	20	64.30	2.54	20	62.25	2.36	3.02*	2.09
Control	20	63.58	5.76	20	63.11	4.51	1.23	2.09

\*Significance at 0.05 level of confidence

The table 7 indicate that, there was significant difference between the pre and post test scores on experimental group's resting heart rate. The calculated 't' value 3.02 is greater than tabulated 't' value 2.09 at 0.05 level of significance with 19 degrees of freedom. In the case of control group, no significant difference in resting heart rate was found

**Table 8; 't' Ratio of Experimental and Control group on Resting Respiratory Rate**

Control Factors	Pre test			Post test			t-ratio	Table Value
	N	Mean	SD	N	Mean	SD		
Experimental	20	17.05	2.01	20	16.05	1.99	3.63*	2.09
Control	20	17.42	2.12	20	17.00	1.86	1.804	2.09

\*Significance at 0.05 level of confidence

The table 8 indicates that, there was significant difference between the pre and post test scores on experimental group's resting respiratory rate. The calculated 't' value 3.63 is greater than

tabulated 't' value 2.09 at 0.05 level of significance with 19 degrees of freedom. In the case of control group, no significant difference in resting respiratory rate was found.

**Table 9: 't' Ratio of Experimental and Control group on Systolic Blood Pressure**

Control Factors	Pre test			Post test			t-ratio	Table Value
	N	Mean	SD	N	Mean	SD		
Experimental	20	138.95	3.14	20	136.45	3.50	3.34*	2.09
Control	20	137.75	3.40	20	136.15	3.44	1.683	2.09

\*Significance at 0.05 level of confidence

The table 9 indicates that, there was significant difference between the pre and post test scores on experimental group's systolic blood pressure. The calculated 't' value 3.34 is greater than tabulated 't' value 2.09 at 0.05 level of significance with 19 degrees of freedom. In the case of control group, no significant difference in systolic blood pressure was found.

**Table 10: 't' Ratio of Experimental and Control group on Diastolic Blood Pressure**

Control Factors	Pre test			Post test			t-ratio	Table Value
	N	Mean	SD	N	Mean	SD		
Experimental	20	93.68	3.53	20	90.21	3.34	5.45*	2.09
Control	20	91.85	3.34	20	91.90	3.86	.093	2.09

\*Significance at 0.05 level of confidence

The table 10 indicates that, there was significant difference between the pre and post test scores on experimental group's diastolic blood pressure. The calculated 't' value 5.45 is greater than tabulated 't' value 2.09 at 0.05 level of significance with 19 degrees of freedom. In the case of control group, no significant difference in systolic blood pressure was found.

**Table 11 : 't' Ratio of Experimental and Control group on STAI Questionnaire**

Control Factors	Pre test			Post test			t-ratio	Table Value
	N	Mean	SD	N	Mean	SD		
Experimental	20	51.85	3.39	20	44.35	3.79	6.585*	2.09
Control	20	55.20	2.82	20	54.95	2.82	0.893	2.09

\*Significance at 0.05 level of confidence

The table 11 indicates that, there was significant difference between the pre and post test scores on experimental group's state trait anxiety questionnaire. The calculated 't' value 6.585 is greater than tabulated 't' value 2.09 at 0.05 level of significance with 19 degrees of freedom. In the case of control group, no significant difference in state trait anxiety questionnaire was found.

## **Discussion**

The result of the study indicates that the selected yoga programme had brought significant positive changes on selected physiological and psychological variables of elderly female peoples. However control group did not show any improvement on selected variables as they were not involved in any type of training programme except their daily routine life. The result of the study in a nutshell shows significant reduction in systolic blood pressure, diastolic blood pressure, resting heart rate, resting respiratory rate and state trait anxiety level of the elderly female people.

## **Conclusion**

Based on the results of the study the following conclusion had been made:

1. The yoga programme had significant improvement on resting heart rate of elderly female people.
2. The yoga programme had significant improvement on resting respiratory rate of elderly female people.
3. The yoga programme had significant improvement on systolic blood pressure and diastolic blood pressure of elderly female people.
4. The yoga programme had significant improvement on state trait anxiety of elderly female people.

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## The Effect Of Eight Weeks Tactical Training Intervention On Tactical Knowledge Among Youth Hockey Players

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### Abstract

The purpose of this study was to examine the influence of tactical training intervention program on tactical knowledge level among youth hockey players. Research involved 30 youth hockey players from Bukit Jalil Sport School. Subjects were randomly assigned into two groups specifically experimental and control group. Experimental group went through eight weeks training program intervention, twice a week which consists of theoretical, tactical application and discussion. Findings showed a significant different in scale A (knowing about the ball action) [ $F(1,28)=86.86$ ,  $p<0.05$ ] between pre- and post-test in experimental group. In scale B (knowing about others) significant improvement has been observed after tactical training intervention program [ $F(1,28)=22.95$ ,  $p<0.05$ ]. Procedural knowledge scale C (positioning and deciding), there was a significant increased after the tactical training program intervention [ $F(1,28)=18.51$ ,  $p<0.05$ ]. While scale D (action in change of situation) there was also a significant improvement noticed between pre- and post-test [ $F(1,28)=26.66$ ,  $p<0.05$ ]. In comparing between experimental and control group, there was a significance difference observed in scale A [ $F(1,28)=159.10$ ,  $p<0.05$ ]. Scale B for experimental and control group showed significant different [ $F(1,28)=3.95$ ,  $p<0.05$ ]. Whilst in scale C, there was a significant different also observed in experimental group as compared to control group [ $F(1,28)=24.73$ ,  $p<0.05$ ]. Similarly, scale D also illustrated significant different between experimental and control group [ $F(1,28)=55.15$ ,  $p<0.05$ ]. Overall, tactical knowledge treatment group increased as compared to the control group, and also increased between pre-test and post-test. That shows the tactical training intervention program for 8 weeks provide a beneficial effect to the tactical knowledge among youth hockey player.

**Keyword: tactical training, intervention, tactical knowledge**

### Introduction

A team's performance is highly dependent on four major components namely physical, technical, tactical and emotional. These components are equally significant in ensuring optimum level of performance either in team sport or individual athlete. All these are important in any sports participated in which team's or athlete's success will be much affected by involvement of all the components (Warrington, 2010). A well-structured training program will help athletes in preparing their physical, technical, tactical and psychological aspect. In general, a training program is designed to develop and enhance athletes' potential and performance to the optimum level. All these components are needed in training program since there are very much interrelated. Furthermore, Kronspon (2009) stated that athlete need to be trained all the components in order to accomplish the objective. Tactical is described as idea or strategy that will be used during competition, for example training based on situation (e.g. 2 versus 2, 3 versus 3) that normally happen during competition. Ability to master in tactical skill determines success in planning or strategizes, whereas psychology involved skill such as objective precision, handling of anxiety, motivation, imagery and simulation. Mental preparation for athletes for competition is a scientific and systematic procedure which allows athletes to incorporate physical, technical and tactical preparation while competing. All these components are vital in enriching either team or individual performance, but tactical component was less considered as compared to other components. Apart from that, Clemente & Rocha (2013) discussed how important tactical component is in training program. Greenwood (2000) explained that tactical training as one of the approach in which athletes will learn about game situation and respond to either attacking or defending action in accomplishing objective strategy. He also suggested embedding sport principle such as strategy, rules and regulation, opponents' game pattern analysis and also overall and individual analysis in tactical training. Successful training program is measured based on output. Adapting with output oriented program is influenced by types of program involved.

Researchers' belief that tactical component in training program is important to provide opportunity to improve athlete's tactical skill. This study involved with tactical training intervention program in hockey which include instrument to evaluate tactical knowledge. This study therefore waste to explore the progress of tactical knowledge among players pre- and post-8 weeks tactical training program intervention.

### **Methodology**

#### **Research Subject**

The subjects were chosen through purposive sampling. 30 hockey players from Sekolah Sukan Bukit Jalil (SSBJ) were involved in this study. Purposive samplings were performed in this study because it comprehends with the total number of players for the chosen level and these players are extremely discriminate (Baumgartner, Strong & Hensley, 2005). All subjects were divided into two groups of fifteen, namely control and experimental group through simple random sampling. According to McQueen and Knussen (2006), the minimum number of subjects for each group in experimental study is 10.

#### **Research Instrument**

This study involved survey and tactical training intervention. This is because research instrument is an instrument or assessment tools used in the process of collecting data produced by dependent variable in the research (Thomas et al., 2001). Tactical knowledge was measured using a set of questionnaire called Tactical Skills Inventory for Sports (TACSIS) constructed by Elferink-Gemser et al. (2004b), however in this study the question has been translated into Bahasa Melayu after received approval by Elferink-Gemser through email. Questionnaire is a set of questions or items in a written form. It is a tool specifically designed to collect information for the purpose of analysis to answer research hypothesis and research questions. In this study, researcher used a set of questions in order to gather data about tactical knowledge among athletes.

TACSIS consists of assessment regarding understanding and knowing what need to be done. Respond scale was used in this study. This questionnaire was in a form of Likert scale where it is a grading scale to elucidate certain statement. According to McMillan (2008) and Gillham (2000), the use of Likert scale is easier because it save time, data obtained easier to manage, orderly, precise and easier to analyse.

TACSIS consists of 22 items and distributed into declarative knowledge Scale A and B (A: knowing about the ball action, B: knowing about others) procedural knowledge Scale C and D (C: positioning and deciding, D: action in change of situation). Tactical skill inventory for this sport consists of 22 items to be answered in 6-point Likert scale about sport performance starting from 1 (very weak) to 6 (excellent) or 1 (almost never) to 6 (always). Scale concerning "knowing about the ball action" and "knowing about other individuals" comprises question related to declarative knowledge, whereas scale "positioning and deciding" and "action in change of situation" consists of questions related to procedural knowledge. Apart from that, questions like "knowing about the ball action", "positioning and deciding" and "action in change of situation" were related to situation in which the team has the ball. Whereas questions like "knowing about others" and "action in change of situation" were related to situation in which the opponent has the ball. Combination of these two methods can be done to categorize tactical skill elements (declarative knowledge vs procedural knowledge and attacking vs defending). During pilot study done earlier, tactical skill inventory in this sport in Bahasa was shown as one of reliable psychometric instrument with internal consistency and Cronbach alpha between 0.72-0.89. "positioning and deciding", "knowing about others" and "action in change of situation" have repeated measures correlation coefficient between 0.76 and 0.88 intra-class. Scale about "knowing about the ball action" has intra-class coefficient correlation of 0.60.

### **Research Methodology**

#### **Tactical training intervention implementation**

The tactical training intervention in this study was done in experimental group for eight weeks started from end of May 2013 until July 2013. Every training session was conducted for 1 hour and 30 minutes twice a week. Owing to absent of standardize time allocated for tactical training, therefore 1 hour and 30 minutes was choose based on information given by Mitchell et al., (2006). During the first meeting, explanation regarding the study design, the training program and the intervention tactical training prepared for them together with the battery of test to be measured were explained thoroughly to the subjects. A consent form was distributed to all of them before any data taken prior to the intervention. A pre- and post-test were conducted where the subjects were asked to complete a set of TACSIS questionnaire in 30 minutes.

## Statistical Analysis

All data were analysed using SPSS 21.0. Descriptive statistics and inferential were used to analyse data in order to answer every research hypothesis. Followed is a detail explanation on how to accomplish each research hypothesis. Descriptive statistics was employed to illuminate and summarize overall variable characteristics. Coakes and Steed (2009) elucidated this approach is appropriate to be used for collecting and organizing data for the purpose of giving quantitative general picture about the subjects in a simpler manner. All results were expressed in mean and standard deviation for age, position in the game and level of the athletes. While inferential statistics was used to observe if there were any significant differences between the 2 sets of scores (pre- and post). SPANOVA was used because this test conforms to SPANOVA test requirement and measure two independent variables (Group and test) upon dependent variable (TACSIS Score). Two groups (treatment and control) upon two time points (pre- and post) analysed by using split plot ANOVA with repeated measures on the second factor (Piaw, 2009). In this study, data obtained was dependent variable with two independent variables which are group and repeated measures.

## Result and Discussion

Two-way ANOVA was capable to identify significant difference in minimum values for TACSIS scale between experimental and control groups. There was a significant difference in scale A between minimum score in experimental and control groups [ $F(1,28) = 159.10, p < 0.05$ ] and there was also a significant difference in minimum score for scale B between experimental and control group [ $F(1,28) = 3.95, p < 0.05$ ]. In addition, there was a significant difference observed in minimum score in scale C between experimental and control group [ $F(1,28) = 24.73, p < 0.05$ ]. Minimum score in scale D too showed significant difference between experimental and control groups [ $F(1,28) = 55.15, p < 0.05$ ]. Result in this study illustrated that declarative knowledge in pre-test for A scale =  $2.76 \pm 0.14$  (knowing about the ball action) in attacking situation while in post-test A scale =  $4.23 \pm 0.33$ .

Declarative knowledge for all the subjects improved and it was found that subjects can identify ball action (A scale) during competition or training. This study showed significant difference between pre- and post-tactical training intervention [ $F(1,28) = 86.86, p < 0.05$ ]. Research done by Elferink-Gemser et al. (2010) in youth hockey players aged between 12-19 years revealed minimum tactical declarative knowledge (scale A) was  $4.21 \pm 0.71$  whereas data from study done in youth football players by Kannekens et al. (2009) was  $4.30 \pm 0.70$ . All the subjects in this study expressed high scores in scale A similar with professional players reported in the literature Kannekens et al. (2009); Elferink-Gemser (2010). This could be due to the fact that the age for subjects underwent tactical training intervention program in this study was very much alike with those subjects.

Meanwhile for scale B (knowing about others) the result were  $2.66 \pm 0.28$  and  $3.52 \pm 0.41$  for pre-test and post-test respectively. The score in this study showed that declarative knowledge for the subjects about knowing about others in defensive situation improved significantly after the tactical training intervention program [ $F(1,28) = 22.95, p < 0.05$ ]. In Kannekens et al. (2009) study, the subjects score in scale B was  $4.00 \pm 0.60$  while Elferink-Gemser et al. (2010) study, the score for scale B was  $3.73 \pm 0.57$ . The figures acquired for scale B in this experiment was similar to that of Elferink-Gemser (2010). This is owing to the same age group for all the subjects participated in both studies. Somehow the result was dissimilar with that of Kannekens et al. (2009) and this could be because Kannekens employed different types of training intervention. In procedural knowledge, (scale C = positioning and deciding) the results were  $2.75 \pm 0.22$  and  $3.74 \pm 0.32$  for pre-test and post-test correspondingly. Procedural knowledge scale C positioning and deciding exhibited significance increased in attacking situation after the tactical intervention training program [ $F(1,28) = 18.51, p < 0.05$ ]. Earlier study by Kannekens et al. (2009), result obtained for scale C was  $3.76 \pm 0.60$  while Elferink-Gemser et al. (2010) was  $3.89 \pm 0.56$ . Data presented was very much alike with the previous result because all the subjects have been exposed to tactical training method in the intervention program. Concerning scale D, action in change of situation, result for pre-test was  $3.25 \pm 0.29$  while post-test was  $4.33 \pm 0.63$ . There was a significant difference in procedural knowledge in defence situation [ $F(1,28) = 26.66, p < 0.05$ ]. Minimum tactical knowledge level reported by Kannekens et al. (2009) was  $4.20 \pm 0.70$  whilst Elferink-Gemser et al. (2010) score in scale D was  $4.24 \pm 0.62$ . This result illustrated that subject's score during pre-test was lower as compared to result of Kannekens et al. (2009) and Elferink-Gemser et al. (2010). Nevertheless result during post-test was very similar to those studies. All the subjects in this investigation underwent intervention training program for eight weeks and this might contribute to the enhancement of knowledge similar to those subjects in previous study. Tactical skill associated with tactical knowledge must be enriched to be able to handle complicated, varying situations and perform suitable action on the right time. In this research, the tactical knowledge improved notably in experimental group as compared to control group. Minimum score recorded in the experimental group increased after completed the tactical intervention training program as a result of structured

program implemented such as game analysis in which they analyse their own game, brief presentation regarding teammate game and also identify weaknesses and limitations in teammates during the game. Thomas (1994) described about how tactical knowledge can be enhanced with the explanation concerning strategy, discussion on game principle and discussion on opponent's game. Development about tactical knowledge can occur due to discussion after every training session. Subjects in experimental group gave ideas and opinions and also evaluate every action taken during the training session with regards to faults and errors noticed. According to Grèhaigne and Godbout (1995), in order to improve tactical knowledge, the program must be systematic and formally recognised. Meanwhile, William and Grant (1999) stated that tactical knowledge memory (declarative) with regards to "what needs to be done" and procedural deals with "how to accomplish". Both of this tactical knowledge is very important for the players to accomplish. All subjects in this study aged between 13-15 years old have experience playing hockey since primary school scored low in tactical knowledge before the intervention training program. Enhancement in tactical knowledge (procedural) in all the subjects was a result of their experience in representing the state and exposure to the sport at young age. This was supported by research that provides data regarding the difference in procedural knowledge among novice-expert football players (n=140, aged=15 years old) starting from local to international level (Garcia-López et al., 2010). There was no significant difference in procedural knowledge in various competition level but somehow when join together, subject compete at national and international level have more advanced procedural knowledge as compared to local, provincial and novice players. On the other hand, Kannekens et al. (2009) stated that tactical knowledge is fundamental onset for players before reach higher level competition. Tactical knowledge among subjects improved due to more time spent during training every session. Explanation about this has been elucidated in training theory (Ericsson, 1996; Krampe and Tesch-Römer, 1993). According to this theory, quality performance among experts resulted from duration of training session and also total training volume which differ among athletes of various level of performance (Ericsson, 2001, 2003). Additionally, the intervention program implemented to the subjects was suitable for their age group and there was no specific training duration allocated for tactical training. Mitchell et al. (2013) suggested that the duration of tactical training according to the level of competition, age group of the athletes and without specific time allocation to train tactical skill. This is also consistent to verify framework by McPherson (1994) once tested using questionnaire TACSIS, showed McPherson's framework can be used to evaluate athlete's level of tactical knowledge.

### **Conclusion**

The purpose of this study was to identify the influence of tactical training intervention program towards tactical knowledge among youth hockey players. Based on the analysis and elaboration of the data collected, it can be summarized that the level of tactical knowledge among experimental subjects improved significantly compared to control group after undertook 8 weeks tactical training intervention program. Scale A minimum score in experimental group (TACSIS) "knowing about the ball action" from "mostly not frequent" to "mostly frequent", while scale B (TACSIS) "knowing about others" from "mostly not frequent" to "mostly frequent". In scale C (TACSIS) "positioning and deciding" and scale D (TACSIS) "action in change of situation" slightly increased from "sometimes vulnerable" to "good" for scale C while scale D from "sometimes vulnerable" to "good" ( $4.33 \pm 0.63$ ). Recent research finding revealed that tactical skill is important to become high achievement athlete (Janelle and Hillman, 2003). Besides, tactical knowledge is very crucial among team sports players which refer to individual's capability to respond on the right time and skilful in adapting themselves to the game (Elferink-Gemser et al., 2004a; Grèhaigne and Godbout, 1995). In order to execute the right action in the right situation, athletes need to understand the game precisely. Apart from physiological feature and developed technical aspect, elite athletes also need to have advanced tactical skill (French and Thomas, 1985); Helsen and Starkes, 1999; Nougier and Rossi, 1999; Starkes, 1987; Williams, Davids, Burwitz and Williams, 1993). Intervention training program employed for eight weeks denote to Teaching Games for Understanding (TGfU) model (Werner, Bunker and Thorpe, 1996) where it indicates that this model can be applied to teach tactical skills in players or students. This can be confirmed through the improvement in tactical knowledge, precise in making decision and tactical performance among players following eight weeks intervention training program. Tactical skill not only involves capacity to exploit suitable action, but also to successfully accomplish it. This represents the ability to make certain tactical decision may not be the same as the ability to carry out or conduct the decision made (Janelle and Hillman, 2003). With regards to this, findings showed that automatic action and expectation are very important in invasive game such as football (Williams, 2000). Research done by Teodorescu and Gheorghe (2014) and by Costa et al. (2010) revealed that there was no difference in declarative knowledge between amateur and professional (all of them have comparable knowledge about training method, teammate, and opponent and ball action). However,

procedural knowledge involves with particular situation interpretation, ability to be present at the right time on the right place and the right attempt (French and Thomas, 1987). In invasive sport, player's role in the team mostly determined by player's position namely defenders, centres and attackers to conduct themselves according to the situation either in attacking or defending. Different game situation require diverse expert and specialized tactical skill.

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## Comparative Study Of Selected Physical Fitness Variables Between School Level Football And Handball Players

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### Introduction

Regular physical activity is associated with a healthier and longer life. Physically active people have a lower risk of heart disease, high blood pressure, diabetes, obesity, and some type of cancer. Despite all the benefits of physical activity, most people in this country are a sedentary. Given that regular physical activity helps people enjoy better health. Advances in our modern society have greatly diminished necessity for physical activity to survive in our daily lives. In addition, technological advances provided numerous sedentary forms of entertainment such as television, movies and video games that are popular in public. Human body is a great computer. Combination of various parts of computer is gives well output. Proper using of various parts of our body can keep our body fit and healthy. Walking brisk walk, running etc., a physical activity requires rapid breathings. Muscles take more oxygen and relieve carbon dioxide in the above activities. Walking, a readily available form of exercise is advocated by many health authorities as a beneficial activity that can be incorporated in to every lifestyle. Toned physique, development of more stamina, reduction of high cholesterol level, increased metabolism increased lung capacity and endorphins releases are the benefits of walking.

### Handball

Handball was first played in 1895 in Germany. It was introduced into the Olympic Games at Berlin in 1936 as an 11 aside outdoor games with Germany wining but when but when- introduced in 1972 it was an indoor game with seven a side, the standard six of the team since 1952. The international hand ball federation was formed in 1946. The first international match was held on 3<sup>rd</sup> September, 1925 it did not have its own governing body and it came under the jurisdiction of the international amateur athletic federation[IAAF].

### Football

Football is one of the most popular and simple games in the world. The game began in England in the 12<sup>th</sup> century. The contemporary history of football spans more than 100 years. It all began in 1863 in England, when Rugby Football and Association Football branched off on their different courses and the world's first foot ball association was founded. The football association in England both forms of foot ball stemmed from a common rot and both have a long and intricately branched ancestral tree. Their early history reveals at least half of a dozen different games, varying to different degrees and to which the historical development of foot ball is related and has actually been tracked back, whether this can be justified in some instances is disputable. Nevertheless, the fact remains that playing a ball with the feet has been going on far thousand of years and there is absolutely no reasons to believe that it is an aloe ration of the more "Nato" form of playing ball with the hands.

### METHODOLOGY

In this chapter, selection of variables, reliability of the data and the statistical technique for the data has been explain in detail.

#### Selection of Subjects

The purpose of the study was to compare the motor fitness variables of district level school football and Handball players. For this purpose the subjects, 30 from each category were selected from the teams [including stand byes] of Kadapa and Kurnool district that participated in the inter district tournament under 16 years held during the year 20007. The subject's average age, height and weight were 15 years 7 months 156 Cms and 42 Kgs respectively.

#### Selection of Variables

The speed, endurance, strength endurance agility and balance performance of the subjects were measured as the dependent variables.

### Analysis of Data and Results of the Study

Analysis of the data collected with regard to this study has been showed in the chapter. In this study motor fitness components between hand ball and foot ball players were studied. The data pertaining to the study was analyzed by following independent 't' test. The procedure of computation mentioned by Clarke and Clarke were utilized to analyze the data. The level of significance to test 'f' ratio obtained by one way analysis of variance was fixed at 0.05 level of confidence.

#### Analysis of the Data

The motor fitness components between handball and football players were determined by subjecting the collected data to the 't' for each criterion variable separately and presented below.

The statistical analysis of data collected on speed of handball and football players of Kadapa and Kurnool district under 17 teams were

**Table -1: 't' Test for the Data on Speed of Hand Ball and Foot Ball Players**

Category	Mean Sec	Standard Deviation Sec	Mean Difference	Standard error	't' ratio
Handball	4.38	0.256	0.28	0.06	4.47*
Foot ball	4.10	0.223			

\* significance at .05 level , 't' ratio for significance at .05 level with df 0.58 is 2.00

It shows that the mean of Handball and Football players are 4.38 sec and 4.10 sec respectively and the standard deviations are 0.256 sec and 0.223 sec. the obtained 't' ratio is 4.47 is greater than the table value required. It indicates that there is significant difference between the means of handball and football players in speed. Further the examination of the means states that the football players in speed. Further the examination of the means states the football players were better in speed when compared to handball players.

**Table -2: 't' Test for the Data on Pull Ups Hand Ball and Foot Ball Players**

Category	Mean Sec	Standard Deviation Sec	Mean Difference	Standard error	't' ratio
Handball	5.67	2.25	0.36	0.56	0.67
Foot ball	6.03	2.04			

\* significance at .05 level , 't' ratio for significance at .05 level with df 0.58 is 2.00

It indicates the mean values of handball and football players are 5.67 and 6.03 respectively. The standard deviations of handball players are 2.25 and Football players is 2.04. there resulted a 't' ratio of 0.67 it is less than the table value for significance; it shows insignificant difference between the means. It reveals that there was no significant difference between handball and football players in pull ups.

**Table -3: 't' Test for the Data on 12 Minutes Run/Walk of Hand Ball and Foot Ball Players**

Category	Mean Sec	Standard Deviation Sec	Mean Difference	Standard error	't' ratio
Handball	2413.7	148.3	245	47.51	5.16
Foot ball	2658.7	213.8			

\* significance at .05 level , table value for significance at .05 level with df 0.58 is 2.00

It shows that the mean of handball and Football players in 12 minutes run 2413.7 Mtrs respectively. The standard deviation of the handball players is 148.3 Mtrs and that of Football players is 213.8 Mtrs. The 't' ratio is 5.16, which is higher than the table value required for significance. It shows that the means of Handball players and Football players differ significantly. Further the observation of the means states that Football players are better in endurance when compare to the handball players.

**Table -4:'t' Test for the Data on Agility of Hand Ball and Foot Ball Players**

Category	Mean Sec	Standard Deviation Sec	Mean Difference	Standard error	't' ratio
Handball	17.6	3.96	2.3	0.82	2.80
Foot ball	15.3	3.14			

\* significance at .05 level , table value for significance at .05 level with df 0.58 is 2.00

It shows that the mean of handball and Football players in agility 17.6, 15.3 respectively. The standard deviation of the handball players is 3.96 and that of Football players is 3.14. The 't' ratio is 2.80, which is higher than the table value required for significance. It shows that the means of Handball players and Football players differ significantly. Further the observation of the means states that handball players are better in agility when compare to the football players.

**Table -5:'t' Test for the Data on Balance of Hand Ball and Foot Ball Players**

Category	Mean Sec	Standard Deviation Sec	Mean Difference	Standard error	't' ratio
Handball	40.16	7.36	6.5	1.0	6.5
Foot ball	33.66	6.36			

\* significance at .05 level , table value for significance at .05 level with df 0.58 is 2.00

It shows that the mean of handball and Football players in Balance 40.16, 33.66 respectively. The standard deviation of the handball players is 7.63 and that of Football players is 6.36. The 't' ratio is 6.5, which is higher than the table value required for significance. It shows that the means of Handball players and Football players differ significantly. Further the observation of the means states that handball players are better in balance when compare to the football players.

### Summary

The purpose of the study was to identify between school Handball and Football players in the selected motor fitness components for this purpose 30 football and 30 Handball players were selected from Kadapa and Kurnool districts under -17 football and handball teams that represented school games federation inter district tournament – 2007. The variables selected were speed, endurance, strength endurance, agility and balance. These variables were assessed by following 30 Mtrs flying star, 12 minutes run/walk, pull ups, Hexagonal jump test and balance beam walk test respectively. Prior to the collection of the data reliability of the data was established by establishing instrument and testers competency. The collected data was subjected to 't' test to find out the significance difference between handball and football players. The level of significance was – 't' at .05 level.

### Conclusion

The analysis of the data facilitated the following conclusions;

- Football players were significantly better than the handball players in speed endurance and agility.
- Handball players were better than the football players in balance.
- There was no significant difference between handball and football in strength endurance.

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## The Effectiveness Of Psychological Skills Training (Pst) Program On Netballers' Mental Toughness

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### Abstract:

The aim of this study was to investigate the effect of psychological skills training (PST) program on mental toughness among netballers. The participants were forty-six female athletes, aged of 13-17 years and were randomly divided into three groups after response to the VMIQ-2 for screening their imagery ability. The groups were the experimental Group 1 (combination of imagery-diaphragmatic breathing relaxation and physical practice (PP), N=16), the experimental Group 2 (combination of imagery-diaphragmatic breathing relaxation and PP, N=15) and the control group (PP only, N=15). The intervention program lasted eight weeks (2 sessions per week). Participants of all groups underwent the familiarization phase for 2-sessions before they were evaluated using PPI-M during a pretest at the beginning of the program and once again during a posttest at the end of the intervention. The results revealed that both treatments provided were significantly effective in improving the mental toughness of the netballers. The improvements of the players' mental toughness are expecting may influence the positive result in enhancing shooting performance. Therefore, it appears appropriate, valuable, and sensible to structure the program into systematic way and designed according athletes' needs which resulting in the positive demand in practicing PST among athletes.  
Keywords: Psychological Skills Training (PST), mental toughness, netball

### Introduction

Being physically prepared is crucial to gaining competitive edge, but training the brain is equally important. Psychological Skills Training (PST) programs are comprehensive intervention packages intended to instruct and prepare athletes in mental preparation, incorporating some or all of the intervention strategies(Wann, 1997). Though experimental studies have shown PST to be effective in encouraging mental skills acquisitions in athletes for sports in general (Beauchamp, Halliwell, Fournier, & Koestner, 1996; Sheard & Golby, 2006), there is regularly little justification for particular mental skills being targeted at related sports(Guillot, Genevois, Desliens, Saieb, & Rogowski, 2012; Zetou, Nikolaos, & Evaggelos, 2014).Along this line, four specific psychological skills, that is, goal setting, imagery, self-talk and relaxation have been identified as contributing towards mental toughness and performance enhancement (Patrick & Hrycaiko, 1998; Sheard & Golby, 2006). There was an evidence on suggesting the mechanisms for developing the mental toughness of athletes is to incorporating PST in athletes training, beside on looking up the athlete's developmental profile and socialization(Blakeslee & Goff, 2007; Kremer & Moran, 2012).Hence, Jones and Moorhouse (2008)provided a useful framework predicted on the attributes of mental toughness research that classifies various features into four anchors of mental toughness (i.e. motivation, self-confidence, attentional focus and coping with pressure) which permit to give a knowledge on mental toughness attributes that may be achieved from the PST application. Although mental toughness differ relatively from sport to sport and across different degree of participation, there is apparently consistent regarding its description and main characteristics, which fall into the four categories. The pillars of mental toughness provide a structures framework where to identify ways of teach and build mental toughness from practical perspectives and practical strategies (Weinberg, Butt, & Culp, 2011). Motivation for the mentally tough athlete would surround a vigorous desire for success, readiness to betterment oneself, keep up and work hard, setting difficult but reachable goal, and bouncing back from performance difficulties(Jones, Hanton, & Connaughton, 2002; Weinberg et al., 2011). Self-confidence recognized as one of the most significant mental toughness characteristics (Gucciardi et al., 2008; Jones et al., 2002). This pillar briefs mentally tough athletes' reliance that they have the competence to achieve their goals. According toJones and Moorhouse (2008), this strong belief in oneself allow the mentally

tough athlete to take educated risks, take from critics, control undesirable thoughts and feelings, and with exception of that great things will happen later on.

While, being able to focus attention on the pertinent cues in the environment and maintain that focus despite distractions, as well as not allow their attention to be distracted from their priorities, is a trademark of mentally tough athletes (Gucciardi et al., 2008; Jones et al., 2002; Jones, Hanton, & Connaughton, 2007). Jones and Moorhouse (2008) indicated that mentally tough athletes maintain the moment, focusing on the positives; and focusing on the process. For the other pillar, coping with pressure relates with to being able to negotiate under pressure by regulating the amount and nature of stress experienced (Jones & Moorhouse, 2008). The different aspects of pressure as it pertains to mental toughness consist of coping effectively with disappointment, saying calm under pressure, and interpreting anxiety as conducive for performance (Gucciardi et al., 2008; Jones et al., 2002; Weinberg et al., 2011).

Returning to the mechanism on to exploiting the training environment to develop mental toughness, PST appear to have a substantial role to play in training athletes' routine to be mentally tough (Weinberg et al., 2011). Imagery training in sport settings can be used to improve athletic performance by influencing psychosocial variables such as anxiety, self-confidence, and self-efficacy (Gould, Voelker, Damarjian, & Greenleaf, 2014; Lukaszewski, 2012; Morris, Spittle, & Watt, 2005; Murphy, 2005; Ungerleider, 2005). For example, using imagery in practice situations may increase the efficiency and effectiveness of movements (Morris et al., 2005).

Weinberg and Gould (2014) suggested that athletes employ self-talk in various different ways. First, athletes execute self-talk for skill acquisition and taking in new tasks, and this type of self-talk includes cueing words to centering their attention (Cutton & Hearon, 2013; Perkos, Theodorakis, & Chroni, 2002). Second, self-talk can be a chance for breaking a bad habit by determining the best self-instructional cue(s) that will bring about the new reaction getting to be programmed (Landin & Hebert, 1999). Third, in order to establish an action, the motivating and encouraging aspect of self-talk can employ (Van Raalte & Brewer, 1995). Fourth, positive self-talk can assist in nurturing effort and initiating action (Theodorakis, Weinberg, Natsis, Douma, & Kazakas, 2000). Finally, other uses of self-talk can focus on the psychological aspects of performance, such as enhancing confidence, increasing motivation, controlling arousal levels and strengthening mental preparation (Jakiwa, Geok, & Omar-Fauzee, 2015; Weinberg & Gould, 2014).

Furthermore, there is initial proof to suggest that functional requirements might also create preferences for the utilization of imagery or self-talk. For example, although there can be theoretical support for the combined use of imagery and self-talk in facilitating the learning and execution of skills, study has revealed that athletes use self-talk a lot more than imagery to regulate cognitive anxiety (Fletcher & Hanton, 2001). This is because self-talk is considered a more appropriate strategy for directly addressing the negative verbalizations that characterize cognitive anxiety (Goleman, 2006). Although there is limited research on the role that functional requirements play in athletes' priority for the use of imagery and self-talk, these findings would indicate that it is inappropriate to suggest that the strategies should always be used together (Peluso, Ross, Gfeller, & LaVoie, 2005). In addition, there is considerable individual interpretation in the manner imagery (Nordin & Cumming, 2005) and self-talk (Hardy, Oliver, & Tod, 2010) are represented when serving several functions. It was originally suggested that athletes should use specific imagery (Paivio, 1985) and self-talk (Theodorakis et al., 2000) contents to tend special purposes. For example, Moritz and Hall (1996) suggested that in order to elevate their confidence, athletes should ensure that the content of verbal statements directly matches the function being served (Theodorakis et al., 2000). While this is an intuitive interesting, a little research demonstrated that athletes use a variety of imagery (Callow & Hardy, 2001; Short, Monsma, & Short, 2004) and self-talk (Hatzigeorgiadis, Zourbanos, & Theodorakis, 2007) contents to serve the same function. This hence makes it was troublesome on recommended that imagery and self-talk ought to be a chance to be utilized together to serve specific purposes. Findings have also revealed that a combination of imagery with relaxation and self-talk could produce positive results in enhancing performance (Cumming, Nordin, Horton, & Reynolds, 2006; Vealey, 1986). In addition, several research studies have got demonstrated that imagery combined with relaxation work more effectively than imagery alone (Hallsson, 2013; Weinberg, Seabourne, & Jackson, 1981). In fact, relaxation enhances the clearness of the athlete's image. Similarly, self-talk was hypothesized to increase the self-confidence of athletes when combined with imagery. However, the combination mentioned above did not have any effect on self-confidence though self-talk helped to focus on the cues while imaging. This finding seems to indicate once more that it is not a necessity as to propose that the strategies should be combined together.

In summary, it is then essential for mental toughness development that athletes are faced to stress and the practice environment (i.e. stimulating the tough environment) so, they might take in to appreciate pressure at any time. For instance, common techniques can be used and integrated into the PST program such as engaging in the breathing exercises when the athletes felt able to regain control over their anxiety (Garza & Ford, 2009), practicing self-talk (Hatzigeorgiadis, Zourbanos, Mpoumpaki, & Theodorakis, 2009) or, imagery (Mousavi & Abolfazl, 2011) to reduce athletes' anxiety. As such, athletes need to be aware of their mental strength and weaknesses, which means the athlete must get to be mindful of his feelings during practice and competition, and figure out how to control or modify those circumstances likewise (Hanin, 2000).

The objective of the study conducted was to compare the effectiveness of treatment given to Group 1 (Imagery Program – combination of imagery-diaphragmatic breathing relaxation and physical practice), Group 2 (Self-talk Program – combination of imagery-diaphragmatic breathing relaxation and physical practice) and Group 3 (physical practice only) on athletes' mental toughness, before and after 8-week intervention.

### **Methodology**

#### **Participants**

The selected participants were aged between 13 and 17 years from sports school were recruited following approval by the University's Research Ethics Committee. However, two athletes from each self-talk and control group dropped out of the study at the middle of the program because injured during training and the other one transfer to other school. Participants additionally had 'a limited knowledge' of sport psychology, with none of them having already attempted structures PST. All participants volunteered their consent to participate in this study.

#### **Measures**

The Vividness of Movement Imagery Questionnaire-2 (VMIQ-2; Roberts, Callow, Hardy, Markland, & Bringer, 2008) - To assess the imagery ability, VMIQ-2 was administered. It was comprised of 12 items that require movements to be imaged for each of the three subscales using external visual imagery (EVI), internal visual imagery (IVI), and kinesthetic imagery (KI) (Appendix F). The subjects were instructed to first image all items using EVI, followed by IVI, and KI. The subjects were instructed to rate the vividness of their image on a five-point Likert scale with 1 representing "perfectly clear and vivid as normal vision" to 5 representing "no image at all, or you only know that you are thinking of the skill". Scores are summed for each scale, range between 12 and 60 (as there are 12 items, with a score of 1 to 5 for each). The lower the score, the better the athlete reaches applying that specific imagery type.

The Psychological Performance Inventory (PPI; Loehr, 1986) - The forty two item scale yields an overall mental toughness score as well as seven six-item subscale scores in (a) self-confidence (i.e. belief regarding ability), (b) negative energy control (i.e. competition anxiety), (c) attention control (i.e. focused), (d) visualisation and imagery control (i.e. positive future picturing), (e) motivation (i.e. willingness), (f) positive energy (i.e. enjoyment) and (g) attitude control (i.e. positive thinking at all times). Subscale scores range from a low of 6 to a desirable high of 30 and total scores from 42 to 210. Scores are recorded on a five point Likert scale anchoring by 'almost always' and 'almost never.' The pre-experimental phase for this study was involved the translation and pre-experimentation of PPI. The Cronbach alpha value for PPI-Malay Language Version (PPI-M) range from 0.66 to 0.84. The composite reliability for all the eight domains of PPI-M was 0.94.

#### **Procedures**

A pilot study was carried out with twenty-five athletes from one sports school in Selangor who meet the required study criteria. This allowed for the revision, where necessary, of the methods and logistics that may lead to improvement and efficient implementation of the actual study. The intervention took place during 16 practice sessions in 8 weeks period. Two assessment sessions were conducted before and after the intervention period. Prior on the onset of the study, the researcher had an extensive meeting with the coach and the athletes to explain in detail the completely experimental procedure. The questionnaires (i.e. PPI-M and VMIQ-2) were distributed to the participants during this meeting. From the initial screening of 46 respondents who completed VMIQ-2, sixteen of them who achieved specified imagery criteria were selected for the Group 1 (i.e. imagery and diaphragmatic breathing). The first 16-participants who got score more than average were selected for the Group 1 and the rest were randomly divided into the other groups; Group 2 (i.e. self-talk and diaphragmatic breathing) and the control group. The following meeting was conducted as three separate meetings (i.e. for 3 groups) for underwent familiarization phase. Upon the familiarization phase, the subjects from the treatment groups were educate with the techniques, familiarize the subjects with the content of the intervention in order to let them more prepared during the experimentation phase later on. The researcher was always present to ensure the proper application of the program schedule. In the

intervention phase, the subjects for the treatment groups were underwent the 30 minutes PST session and followed by 40 minutes PP session. The subjects in the control group executed the same physical practice for the same length of time; however, they do not have the PST session. On the last met, the subjects would be having once again completed the PPI-M. The pre-test scores and the posttest scores were then could be analyzed. After the conclusion of the experimental procedures, participants were thanked for their participation.

**Results**

Statistical analysis was performed with the Statistical Package for the Social Sciences statistics version 22.0 software package. Prior to analyze the data using SPANOVA, several assumptions must be met; analysis of variance, distribution normality with Kolmogorov–Smirnov test ( $\pm 2.00$ ) and homogeneity of variance (Levene’s test) were carried out. The Levene’s test and Box’s Test of Equality of covariance matrices were not significant value ( $p > 0.05$ ) and Thus, parametric tests can be applied. While, the post-hoc test (Bonferroni) for pairwise comparisons would use to understand where the differences between the groups within the factors lie (i.e. the differences in mental toughness between the three “conditions”: the “imagery program”, the “self-talk program” and with control condition). Significance was determined at the .05 level.

Table 1: The Table of N, Mean and Standard deviation of pretest and posttest

	group	Mean	Std. Deviation	N
mentaltoughness1	imagery	137.50	17.493	16
	self-talk	139.13	19.224	15
	control	138.13	16.518	15
	Total	138.24	17.387	46
mentaltoughness2	imagery	154.81	21.833	16
	self-talk	151.47	23.320	15
	control	140.53	15.542	15
	Total	149.07	21.004	46

Table 1 showed the descriptive information on numbers of respondents (N), mean and standard deviation for the dependent variable across both independent variables. The mean score of pretest for Group 2 (i.e. self-talk program) (mean = 139.13) was the highest compare Group 1 (i.e. imagery program) (mean = 137.50) and Group 3 as control group (mean = 138.13). However, for the posttest, the mean score for Group 1 (mean = 154.81) was slightly higher than Group 2 (mean = 151.47). The mean score for control group was remain the lowest (mean = 140.53).

The graph of the profile plot clearly indicated that the mental toughness for the treatment groups increase over time (refer to Figure 1). The mean value of Group 2 outperformed the Group 1 during the posttest. The mean value of control group was increase over time; however, the increasing of the mean value of treatment groups was much better than the control group.

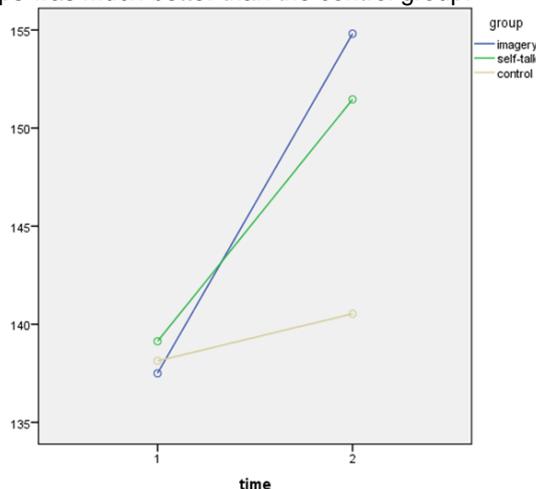


Figure 1: Profile Plots to indicate the pretest and posttest means of the three groups based on the time

Table 2: Table of Test Multivariate Pillai's Trace

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
time	Pillai's Trace	.544	51.243	1.000	43.000	.000	.544
	Wilks' Lambda	.456	51.243	1.000	43.000	.000	.544
	Hotelling's Trace	1.192	51.243	1.000	43.000	.000	.544
	Roy's Largest Root	1.192	51.243	1.000	43.000	.000	.544
time * group	Pillai's Trace	.287	8.659	2.000	43.000	.001	.287
	Wilks' Lambda	.713	8.659	2.000	43.000	.001	.287
	Hotelling's Trace	.403	8.659	2.000	43.000	.001	.287
	Roy's Largest Root	.403	8.659	2.000	43.000	.001	.287

The test of Multivariate Pillai's Trace in Table 2 (above) showed that there was a main effect of pretest and posttest on mental toughness [F(1,43)=51.24] and it was considered has a very large effect,  $\eta^2 = .54$  (Cohen, 1988). There was also significant interaction effect between groups over time [F(1,43)=8.66,  $p < .05$ ] on dependent variable (i.e. mental toughness) and with a large effect,  $\eta^2 = .29$  (Cohen, 1988). This showed that the treatments provided not only affect the pretest and posttest scores as individual; the interaction with groups also affects the level of athletes' mental toughness. Hence, this indicated that the treatments provided are significantly effective in improving the mental toughness of the athletes. Tests of Within-Subjects Contrasts showed in Table 3 that there was a significant linear relationship between pretest and posttest on mental toughness as illustrated in Profile Plots graph. However, the mean value of mental toughness score for all three groups are not significant {F(1,43)=.546,  $p > .05$ } (Table 4). Result based on pairwise comparison for all groups indicated that all pairwise comparison were not significant ( $p > .05$ , after the Error Type I was controlled using Bonferroni).

Table 3: Table of Tests of Within-Subjects Contrasts

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
time	Linear	2621.963	1	2621.963	51.243	.000	.544
time * group	Linear	886.119	2	443.059	8.659	.001	.287
Error(time)	Linear	2200.185	43	51.167			

Table 4: Table of Tests of Between-Subjects Contrasts

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	1895281.686	1	1895281.686	2759.884	.000	.985
group	841.684	2	420.842	.613	.546	.028
Error	29529.185	43	686.725			

## Discussion

This study consistent with Kremer and Moran (2012) in developing the mental toughness of athletes by incorporating PST in athletes training. Furthermore, many sport-specific study also suggested that mental toughness can be learn as well as for example in Australian Football (Gucciardi, Gordon, & Dimmock, 2009), cricket (Bull, Shambrook, James, & Brooks, 2005) and soccer (Thelwell, Weston, & Greenlees, 2005). Even though this study was given diaphragmatic breathing as relaxation treatment but this study supported Hallsson (2013) in using combination of the relaxation-PETTLEP imagery. Especially, since previous studies that have evaluated relaxation prior to imagery effectiveness has not used PETTLEP in the imagery strategy. This study was in a five-week intervention, took part in a soccer free-kick accuracy task, and was evaluated that the treatment also contribute to control anxiety level, concentration, and vividness elements. Although, this study as far as the researcher knowledge was none of other study did a comparison between combination of imagery-diaphragmatic breathing relaxation, and combination of imagery-diaphragmatic breathing relaxation, however the findings from separate study was interesting to be highlighted as it might induce other ideas.

For instance, the objective of this study was to determine the effectiveness of PST on netballers' mental toughness. In any case, the discoveries may not give enough data on; how far did the athletes utilizing diaphragmatic breathing as taught to them; when and where to applied. The expectation may be extremely true which is certainly not because most athletes have never been educated the foundation requisites of this technique or simply just carry out not know how to relax on command (Burton & Raedeke, 2008). Therefore, in this case the integration between minimal number

of simple psychological techniques could be asset to athletes if could get more attention from coaches and sport practitioners.

### Conclusion

The common PST such as relaxation that can be practice by athletes could be very helpful to the athletes. If so, the coaches or sport practitioners assume an essential role to instruct and raise knowledge of the athlete for the importance of relaxation approaches that function quickly during training and competition(Garza & Ford, 2009). They can always blend the breathing techniques with other common techniques: imagery or self-talk adjusted to situation they are facing during practice or competition. Future research ought to be directed to figure out whether relaxation was utilized less often or more frequently. In addition, it is important to mention that although self-talk program effectively in influencing the strength and weaknesses of the athletes but the participants practices the combination of motivational and instructional self-talk possible not to count on the set of phrases or cue only. Rather than the choice of cue work task-relevant and concentrate on specific shooting technique, and were individually altered, had personal meaning and importance, and were their picked preferences (Cutton & Hearon, 2013). Finally, consequence of this study highlighted that it appears appropriate, valuable, and sensible to structure the psychological training into systematic way and designed according athletes' needs, which can result in the most enhance way to improve the athletes' mental toughness among athletes.

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## **Comparative Study Of Physical Fitness Variables Among Rural And Urban School Boys**

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### **Introduction**

Sport is an activity that is governed by a set of rules or customs and often engaged in competitively. Sports commonly refer to activities where the physical capabilities of the competitor are the sole or primary determiner of the outcome [winning or losing], but the term is also used to include activities such as ind sports and motor sports where mental acuity or equipment quality are major factors. Sports are used as entertainment for the player and the viewer. It has also been proven by experiments that daily exercise increases mental strength and power to study. Today, unfortunately, fewer and fewer students are experiencing that feeling. Many states have drastically reduced or, in some cases, even dropped Physical Education requirements for high school students. And, in some of those states where Physical Education has been de-emphasized, fitness test results show an alarming rate of failure.

### **Fitness and Exercise**

Today, there is growing emphasis on looking good, feeling good and living longer. Increasingly, scientific evidence tells us that one of the keys to achieving these ideals is fitness and exercise.

### **Benefits of Exercise and Physical Activity**

Physical activity has a relaxation effect and can improve sleep as well as reduce mental stress and raise energy levels. Depending on the selection and variety of physical activity and sports, it can provide daily variety, fun: develop the sense of competitiveness as well as open up to a new of achievement and self satisfaction of taking person health into your own hands.

Some of the benefits of increased activity are, improved Health, increased efficiency of heart and lungs, reduced cholesterol levels, increased muscle strength, reduced blood pressure, reduced risk of major illnesses such as diabetes and heart disease, weight loss, and Mind over Immobility. Gritting moving is a challenge because today physical activity is less a part of our daily lives. There are fewer jobs that require physical exertion. We've become a mechanically mobile society, relying on machines rather than muscle to get around. In addition, we've become a nation of observers with more people [including children] spending their leisure time pursuing just that Leisure, Consequently, statistics show that obesity and the problems that come with it [high blood pressure, diabetes, stroke, etc.] are on the rise, but statistics also show that preventive medicine pays off, so don't wait until your doctor gives you an ultimatum. Take the initiative to get active now.

### **Methodology**

The purpose of the this study is to compare the physical fitness among the Rural high schools boys and Urban High School boys students. To achieve this purpose, 60 rural high schools boys students 60 Urban High School boys students were taken as randomly from the above said schools in Chittoor district Andhra Pradesh. The age group of these students is 14 & 15 years. These groups were then tested with the help of AAHEERD – [American alliance for Health, Physical Education, recreation and Dance –Established – American Association for Health, Physical Education, recreation in 1958, USA.] Youth Fitness Test to find out the physical fitness of the boys in Chittoor District. The researcher selected AAHPERD Youth Fitness Test because, it is considered to be the most reliable and valid of all the tests of fitness.

### **PHYSICAL FITNESS**

Sit –ups (Abdominal Muscle Endurance )

The collected data on sit-ups (Abdominal Muscle Endurance) of Rural high schools boys and urban high schools boys have been statistically analyzed and presented in table-1

Table-1: Comparison of analyzed data on sit-ups (60 seconds) between rural and urban high school boys of Kadapa District, Andhra Pradesh.

Group	Means	M D	S D	T - Ratio
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Rural High School	27.87		7.31	
		2.45		0.77
Urban High School	25.42		6.05	

Table 1 shows that mean value of sit-ups (60 seconds) Abdominal Muscle Endurance of Rural high school boys is 27.87 and urban high schools boys is 25.42 and mean points of Rural schools boys is more than points of urban high school boys by 2.45 points on sit-ups.

The obtained "t" ratio of 0.77 indicated that the significant difference in points of sit-ups by Rural high schools boys and Urban high schools boys at 0.05 level of significance at 58 degree of freedom.

Hence the difference is considered as significant in sit-ups is in favor of Rural high school boys

Standing Board Jump (Leg strength and explosive power)

The collected data on standing Board Jump [leg strength and explosive power) of Rural high school boys and Urban high schools boys have been statistically analyzed and presented in table-2

Table-2: Comparison of analyzed data on standing board Jump (meters) between Rural and Urban High school boys of Kadapa District, Andhra Pradesh.

Group	Means	M D	S D	T - Ratio
Rural High School	2.17		0.32	
		0.20		6.67
Urban High School	1.97		0.28	

Table-2 shows that mean value of Standing Board Jump (in meters) leg strength and explosive power of rural high school boys is 2.17 and urban high school boys is 1.97 and mean number of meters of standing Board Jump by Rural high school boys is more than the mean meters of jump by Urban high school boys by 0.20 meters.

The obtained "t" ratio of 6.67 indicated that the significant different in meters of standing board Jump by Rural high school boys and Urban high school boys at 0.05 level of significant at 58 degree of freedom. Hence the difference is considered as significant in standing board Jump is in favour of Rural high school boys.

Shuttle Run (speed and agility):

The collected data on Shuttle Run (Speed and Agility) of Rural high schools boys and urban high school boys have been statistically analyzed and presented in table-3

Table -3: Comparison of analyzed data on Shuttle Run (seconds) between Rural and Urban high schools boys of Kadapa District, Andhra Pradesh.

Group	Means	M D	S D	T - Ratio
Rural High School	15.25		0.83	
		0.74		9.93
Urban High School	15.99		0.96	

Table -4.3 shows that mean value of shuttle Run (in seconds) speed and Agility of Rural high school boys is 15.25 and Urban high school boys is 15.99 and Mean seconds of rural high school boys is less than the mean seconds of Urban high school boys by 0.74 seconds is completed their shuttle race.

The obtained "t" ratio of 4.93 indicated that the significant difference in points of Shuttle Run by Rural high school boys and urban high schools boys at 0.05 level of significant at 58 degree of freedom. Hence the difference is considered as significant in Shuttle is in favor of high school boys.

3. 50 Yards Run (speed)

The collected data on 50 yard Run (speed) of Rural high school boys and urban school boys have statistically analyzed and presents in table- 4

Table- 4: Comparison of analyzed data on 50 yards run (second) between Rural and Urban high school boys of Kadapa District, Andhra Pradesh.

Group	Means	M D	S D	T - Ratio
Rural High School	7.37		0.33	
		0.20		2.86
Urban High School	7.59		0.66	

Table 4 shows that mean value of 50 yards run (seconds) speed of rural school boys is 7.37 and urban high school boys is 7.59 and mean seconds of Rural high school boys is 7.59 and Mean seconds of Rural high school boys is less than the mean seconds of urban high school boys by 0.22 seconds is completed their 50 yards (46 meters) run. The obtained "T" ratio of 2.83 indicated that the

significant difference in points of 50 yards Run by Rural high school boys and urban high schools boys at 0.05 level of significance at 58 degree of freedom.Hence the difference is considered as significant in 50 yards run is in favour of rural high school boys.

600 yards run (Endurance):The collected data on 600 yards run (Endurance) of Rural high school boys and Urban high school boys have been statistically analyzed and presented in table-5

Table 5:Comparison of analyzed data on 600 yards runs (mints) Endurance between Rural and Urban high school boys of Kadapa District, Andhra Pradesh.

Group	Means	M D	S D	T - Ratio
Rural High School	1.85		0.26	
Urban High School	2.01	0.16	0.28	6.15

Table 4.5 shows that mean value of 600 yards run (mints) Endurance of Rural high school boys is 1.85 and Urban high school boys is 2.01 and Mean seconds of Rural high school boys is less than the men seconds of Urban school boys by 0.16 seconds is completed their 600 yards (546 meters ) run.

The obtained “t” ratio of 6015 indicated that the significant difference in points of 600 yards run by rural high school boys and urban high schools boys at 0.05 level of significant at 58 degree of freedom.

Hence the difference is considered as significant in 600 yards run us in favor of rural high school boys.

#### Discussions of Findings

The findings of the study and discussions are presented here briefly.

#### Physical Fitness

The difference between the means of the Rural and Urban high school boys in the physical fitness variables. The 60 seconds sit-ups (0.77) shuttle race 30 feet distance of six rounds ups 180 feet have been completed (4.93), 50 yards (46 meters) run (2,86) and 600 yards (546 Meters) run (6.15) were found to be satisfactorily significant at 0.05 percent level of confidence.

From these findings we understood that the rural high school boys ate better than the Urban high school boys in all respects.

#### Summary

The purpose of study was to find out and comparative physical fitness of rural and urban school boys of Kadapa district, Andhra Pradesh. 60 subjects from each rural school and Urban High Schools boys in the age group of 14-15 years were selected. The subjects selected were administered AAHPERD youth fitness test which measures five elements of physical fitness battery.The data collected from these respondents were converted into normal scores and are statistically analyzed with the two groups to find out the physical fitness.In addition to their academic time table, a special games period is also allotted every evening. Where as in urban high school boys, even though, they are provided with special games period, it was observed that the training methods were not better comparatively. More over, the commitment on the part of urban high schools management to games for the students were not appeared to be high.Further, in addition the rural school gain the advantage of environment which provide better environment condition comparatively to the urban high schools.

#### Conclusion

The following conclusions may be drawn from the requests presented in the previous chapter.

The study shows that the physical fitness of rural school boys is above average

The Rural high schools boys posses more physical fitness when compared to urban high school boys.

The rural high schools boys are superior to the urban school boys in almost all the components of physical fitness

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## Analysis Of Psychological Variables Among Women Individual Game Players

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### Abstract

The purpose of the study was to analyze the psychological variables among obese and non-obese college women. For the study the students of A.M.M College for Women Bhiwani, Haryana was selected. The study was further delimited to the women students studying in bachelor degree classes only. The age of the subjects ranged from 17 to 24 years. Each study group consisted of thirty subjects, which was assumed to be large enough the purpose of this investigation. The study was delimited to the following variables i.e. psychological variables personality (Self-concept). To compare the lean, average and obese subjects for their psychological variables, the analysis of variance (ANOVA) was employed. The level of significant was set at .05 levels.

**Keywords:** Psychological, Lean, Average, Obese.

### Introduction

The prevalence of over weight in the world is one of the most pressing health problems. One has only to observe the people in some public places to have a graphic demonstration of how large a proportion of population is overweight. Most people enjoy eating and there is plenty of good food. Obesity threatens to become the 21st century's leading health problem. As more Nations become industrialized and urbanized, the prevalence of obesity would inevitably rise. The rapidly increasing prevalence of obesity has led to obesity being characterized as an epidemic. According to the World Health Organization, obesity and its complications are the leading health threat globally problem.

### Objective of the study

To fund out differences between obese and non obese college women on personality traits.

### Method and Procedure

**Number of Student:**A total 90 women 30 from lean 30 from average and 30 from obese student from A.M.M. Bhiwani were selected for the study.

### Variables

Psychological variables (personality traits)

**Tool used to measured:**The personality traits of lean, average and obese college women were measured by using the Eysenck personality Questionnaire – Revised (Eysenck 1980).

### Statistical Procedure

To compare the lean, Average and obese subjects for their psychological variables, the Analysis of variance (ANOVA) was employed. The level of significant was set at .05 level of significant.

### Result and Interpretation

#### Table-1

#### Analysis Of Variance For The Means Of Lean, Average And Obese Groups In Psychological Variables

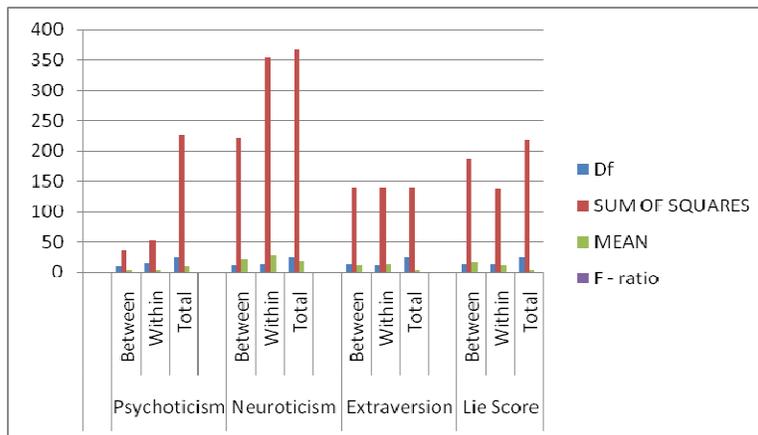
Variables	Source of variance	Df	SUM OF SQUARES	MEAN	F - ratio
Psychoticism	Between	10	36.307	3.631	
	Within	14	52.333	3.738	1.017
	Total	24	226.160	9.516	
Neuroticism	Between	11	220.01	20.00	
	Within	13	353.75	27.21	.731
	Total	24	366.00	17.39	

Extraversion	Between	13	140.01	10.77	
	Within	11	139.75	12.70	.320
	Total	24	140.16	2.96	
Lie Score	Between	12	185.58	15.46	
	Within	12	138.41	11.53	.998
	Total	24	218.16	2.47	

**Significant at .05 Level  $F_{.05} (2,147) = 3.06$**

Table 1 showed that there were no significant differences among lean, average and obese groups on Psychoticism, Neuroticism, Extraversion and Lie Score and Self concept as their respective F-ratios of 1.017, .731, .320 and .158 were less than the F- value of 3.06.

**Table-1: GRAPHICAL REPRESENTATION FOR THE MEANS OF LEAN, AVERAGE AND OBESE GROUPS IN PSYCHOLOGICAL VARIABLES**



#### Findings with Regard to Psychological Variables

The result of the study indicated that lean, average and obese groups did not differ significantly on the dimension of Psychoticism, Neuroticism, Extraversion and Social Desirability or Lie Score of Eysenck's Personality Inventory. These four groups also did not differ on personality traits.

**Conclusion :** The non-obese and obese college women did not indicate any significant differences in the dimensions of Psychoticism, Neuroticism, Extraversion and Social – desirability or lie score of Eysenck 's Personality Inventory.

Average college female were found to be more extrovert than lean and obese college women.

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## Water Vs. Energy Drink: Vis-À-Vis Athletic Performance

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### Abstract:

The study aimed to determine the effects of energy drink on Polytechnic University of the Philippines athletics players' running, throwing, and jumping performance. It will also identify which particular fluid to be taken is suitable for a particular athletics event. Purposive sampling was utilized to include 9 PUP athletic players (3 Runners, 3 Jumpers, 3 Throwers). The nine informants were divided into three groups according to their event and remained on that specific team for both trials. They met on three occasions. For the first meeting, an orientation about the procedures and benefits will be discussed including the filling up of forms. The next two meetings will be the experimental trials. The two trials included identical exercise patterns where the subjects consumed 16 ounces of energy drink or water. Results revealed that fluid intake may affect the athletic performance of a player. Energy drink consumption can positively affect the running, throwing, and jumping skills of an athlete. The enhancement of the athletic performance may be influenced by the brand of energy drink consumed. Although energy drinks show positive effect on the performance of the athletic players, it still has risks with over-consumption (Gunja et. al., 2012). Therefore, researchers advises all sports related facilities to put up a poster regarding awareness about the proper procedure, time and amount of fluid intake or energy intake during work outs, trainings or competitions. Likewise, coaches and trainers should always be updated through seminars, conferences, and trainings regarding recent trends and researches about enhancing athletic performance or related field.

**Key words:** Energy Drink, Athletic Performance, Fluid Intake

### Introduction:

The history of track and field event started in 776 BC. Walking and running is a natural process of man from his birth. The first foot race was held at the first Olympic festival in ancient Greece. Throwing sports can trace their ancestries back to pre-historic man, with spear- or rock - throwing hunters. These dealings gave birth to track and field events. Many individuals started to compete with each other and the events became more popular as the days progressed. These events require a range of physical demands to the athletes competing. In order to perform several skills, players should have a lot of energy stored. Some fitness enthusiasts and competitive athletes seek to improve their performance by consuming supplements or energy drink to enhance their performance.

In the Recent survey of American high-school athletes, 32 percent reported drinking energy beverages. In another survey, 27 percent of a group of 16,000 adolescent athletes, some as young as 11, said that they used caffeine, usually in the form of energy drinks, to improve their sports performance; 13 percent said they did so at the urging of their coaches (Reynolds, 2010). Energy drink is a beverage containing multiple ingredients which gives service with expressed intent to one or more facets of perceived neurological and/or psychophysiological efficiency (Caffeineinformer,2014). Energy drinks are beverages (for example Red Bull, Venom, ED, and Adrenaline Rush) that contain

large doses of caffeine and other legal stimulants such as taurine, carbohydrates, glucuronolactone, inositol, niacin, panthenol, and  $\beta$ -complex vitamins (Attila et al. 2009, 316)

According to NewsWise (2008) Energy drinks are readily accessible, legal, and potentially addictive. They are beverages used by consumers to provide an extra boost in energy, promote wakefulness, maintain alertness, and provide cognitive and mood enhancement. According to Seifert (2011), physiologically, caffeine causes coronary and cerebral vasoconstriction, relaxes smooth muscles, and stimulates skeletal muscles. This present study aimed to determine the effects of energy drink on athletics players' running, throwing, and jumping performance after the consumption of energy drink. Specifically it sought to: 1. Know the effects of energy drinks (Brand X, Brand Y, and Brand Z) in the athletic performance of the PUP Athletics Varsity. 2 Determine the difference between the effects of energy drinks (Brand X, Brand Y, and Brand Z) and water to their athletic performance. 3. Identify which particular fluid to be taken is suitable for a particular athletics event.

**Methods** The present experimental study utilized a "within-subject, two-treatment design". One group of participants will be measured twice at different times. The researchers noted that in doing this study, the primary purpose is to know the effects on the athletic performance after the consumption of an energy drink. Purposive sampling was used based upon on the criteria and the informants' capacity and willingness to participate in the research (Oliver, 2008). Under the purposive sampling, the researchers had set the following qualifications: (1) Athletics players who regularly attends their practices. (2) Already a player or participant in competitions for a year. (3) Must be 18 -23 years of age (4) Willing to be a part of the study.

Table 1. Participants' Profile

PARTICIPANTS	GENDER	AGE	NO. OF PLAYING YEARS
Running Event			
RUNNER 1	M	21	3
RUNNER 2	M	19	3
RUNNER 3	M	18	4
Throwing Event			
THROWER 1	F	19	1
THROWER 2	F	18	1
THROWER 3	M	19	3
Jumping Event			
JUMPER 1	M	23	1
JUMPER 2	M	20	6
JUMPER 3	M	20	3

Nine subjects were selected from the PUP varsity athletics team. They met on three occasions. For the first meeting, an orientation about the procedures and benefits will be discussed including the filling up of forms. The next two meetings will be the experimental trials. The two trials included identical exercise patterns where the subjects consumed 16 ounces of energy drink or water. The nine informants were divided into three groups according to their event and remained on that specific team for both trials. There will be three brands of energy drink to be taken in. Each brand will be consumed by one player of each event. On the day of each trial, the informants were asked to follow their typical dietary habits and were also asked to keep a food record. For the second trial, they were asked to use their previous food record and consume similar foods and drinks. They were also asked to refrain from eating anything two hours prior to every trial.

*Informants' Responsibilities*The informants were asked to sleep 7-8 hours of sleep prior to the day of the trial. They were also asked to follow these: record food eaten on the first day of the trial and consume similar meals on the second trial; refrain from food 2 hours prior to each trial.

### Procedure

In this study, the subject was expected to meet at the University's Track Oval on three separate occasions at 3 o'clock in the afternoon. The first session consisted of the explanations of the risks, benefits, confidentiality, and the subject's responsibilities. In addition, subjects familiarized themselves with the test protocol. The second and third sessions consisted of the experimental trials. Each experimental trial consists of warm-up and stretching period, work outs, and the test. At the beginning of each trial before the warm up, the subjects consumed 8 ounces of water or energy drink. After the warm up, the specific work outs will proceed. Another 8 ounces of fluid consumption will also take place before the testing. On the first day, the subjects performed the trials only with the consumption of water. On the second day, the same sequence of exercises was executed but instead of just drinking water, they will be consuming an energy drink. After the test, another brief discussion will occur. The agenda is about the performance of the nine athletics players who participated in the experiment. All of the recorded data will be announced for them to be aware of their athletic performance with and without drinking a commercially available energy drink.

### Results and Discussion

The findings of the present investigation showed that the consumption of 16 ounces of energy drink (Brand X, Brand Y, and Brand Z) had a good effect to the athletic performance of the runners, throwers, and jumpers.

Table 2: Running Event

Athlete	Energy Drink Brand	Best Time during Water consumption (seconds)	Best Time during Energy Drink consumption (seconds)	Difference	Findings	CONCLUSION
Runner 1	Brand X	24.59 sec	25.8 sec	+1.21 sec	No improvement	The most suitable brand of energy drink is Brand Z
Runner 2	Brand Y	26.71 sec	26.47 sec	-.24 sec	Improved	
Runner 3	Brand Z	25.7 sec	24.7 sec	-1 sec	Improved	

Most of the runners improved during the energy drink intake. Two out of three subjects decreased their time to complete a 200m run. Runner 1, who consumed the Brand X energy drink,

excelled more after consuming water. Runner 2 and Runner 3 who consumed the Brand Y and Brand Z Energy Drink respectively had better performances after taking in energy drink than just consuming water only. The brand that was the most influential was the Brand Z. It can be inferred from the study of Buxton and Hagan (2012) that energy drinks were consumed by the athletes: (1) to provide energy and fluids to the body (25.9%), (2) to improve performance (9.8%) and (3) to reduce fatigue (5.4%). Although improvement with the performances were shown in findings, with the small difference of time, it can be conclude that drinking water and energy drink are both effective.

Table 3. Throwing Event

Athlete	Energy Drink Brand	Best Distance during Water consumption (meters)	Best Distance during Energy Drink consumption (meters)	Difference	Findings	CONCLUSION
Thrower 1	Brand X	18.52 m	19.91 m	+1.39 m	Improved	The energy drink brand that is best suited for the throwers is brand X.
Thrower 2	Brand Y	22.32 m	21.71 m	-1.61 m	No improvement	
Thrower 3	Brand Z	28.62 m	29.21 m	+.59 m	Improved	

The table reveals that there was a positive effect regarding the consumption of energy drink (Brand X, Brand Y, and Brand Z) in the throwing event. Thrower 2, who consumed the Brand Y energy drink, had a better performance during the water intake. In contrast, the players who consumed the Brand X and Z energy drink improved during the energy drink intake. The brand that had the most significant effect was the Brand X energy drink.

The researchers believe in the claim of McCormack, W. and Hoffman, J. (2012) that caffeine and energy drinks do appear to have an ergogenic effect on strength-power performance. Specifically, evidence is quite consistent in that supplementing with caffeine or an energy drink containing caffeine and other ingredients can increase the quality of a workout by increasing the number of repetitions performed and the power output per repetition.

Table 4: Jumping Event

Athlete	Energy Drink Brand	Best Distance During Water consumption (meters)	Best Distance During Energy Drink consumption (meters)	Difference	Findings	CONCLUSION
Jumper 1	Brand X	5.84 m	5.98 m	+0.14 m	Improved	In the jumping event, brand Y is the best suited energy drink
Jumper 2	Brand Y	6.33 m	6.39 m	+0.6 m	Improved	
Jumper 3	Brand Z	5.62 m	4.85 m	-0.77 m	No improvement	

In the jumping event, the jumper who only performed better in the water intake was jumper 3 who consumed the Brand Z energy drink. For the jumpers 1 and 2 who consumed the Brand X and Y Energy Drink respectively, they improved during the energy drink intake. Brand X was the most influential brand for the jumpers.

**Conclusions:**Based on the findings the following conclusion were drawn: (1) Fluid intake may affect the athletic performance of a player. (2). Energy drink consumption can positively affect the running, throwing, and jumping skills of an athlete. (3) The enhancement of the athletic performance may be influenced by the brand of energy drink consumed. (4) For the runners, the most suitable brand of energy drink is Brand Z. (5) The energy drink brand that is best suited for the throwers is brand X. (6) In the jumping event, brand Y is the best suited energy drink. Although energy drinks show positive effect on the performance of the athletic players, it still has risks with over-consumption. Palpitations / tachycardia, Tremor / shaking, Agitation / restlessness, Gastrointestinal upset, Chest pain / ischaemia, Dizziness / syncope, Paraesthesia (tingling or numbing of the skin), Insomnia, Respiratory distress, and Headache are some of these (Gunja et. al., 2012). On the other hand, with little improvement in the performance in drinking energy drink compared to water, it can be concluded that water is still not far being the best hydration that will help improve athlete's performance. Thus, researchers advises all sports related facilities to put up a poster regarding the proper procedure, time and amount of fluid intake during work outs, trainings or competitions. Most importantly, coaches and trainers should always be updated through seminars, conferences, and trainings regarding recent trends and researches about enhancing athletic performance or related field. For future researchers, more research needs to be done on the effects of excessive consumption of energy drink to the athletes.

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## Comparative Study Of Physical Fitness Variables Among Rural And Urban School Boys

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### Introduction

Sport is an activity that is governed by a set of rules or customs and often engaged in competitively. Sports commonly refer to activities where the physical capabilities of the competitor are the sole or primary determiner of the outcome [winning or losing], but the term is also used to include activities such as ind sports and motor sports where mental acuity or equipment quality are major factors. Sports are used as entertainment for the player and the viewer. It has also been proven by experiments that daily exercise increases mental strength and power to study.

### Fitness and Exercise

Today, there is growing emphasis on looking good, feeling good and living longer. Increasingly, scientific evidence tells us that one of the keys to achieving these ideals is fitness and exercise. But if you spend your days at a sedentary job and pass your evenings as a “couch potato”. It many require some determination and commitment to make regular activity a part of your daily routine. Exercise is not just for Olympic hopefuls or supermodels. In fact, you’re never too unfit, too young or too old to get started. Regardless of your age, gender or role in life, you can benefit from regular physical activity. If you’re committed, exercise in combination with a sensible diet can help provide an overall sense of well-being and can even help prevent chronic illness, disability and premature death.

Benefits of Exercise and Physical ActivityPhysical activity has a relaxation effect and can improve sleep as well as reduce mental stress and raze energy levels. Depending on the selection and variety of physical activity and sports, it can provide daily variety, fun: develop the sense of competitiveness as well as open up to a new of achievement and self satisfaction of taking person health into your own hands. Some of the benefits of increased activity are, improved Health, increased efficiency of heart and lungs, reduced cholesterol levels, increased muscle strength, reduced blood pressure, reduced risk of major illnesses such as diabetes and heart disease, weight loss, and Mind over Immobility. Gritting moving is a challenge because today physical activity is less a part of our daily lives. There are fewer jobs that require physical exertion. We’ve become a mechanically mobile society, relying on machines rather than muscle to get around. In addition, we’ve become a nation of observers with more people [including children] spending their leisure time pursuing just that Leisure, Consequently, statistics show that obesity and the problems that come with it [high blood pressure, diabetes, stroke, etc.] are on the rise, but statistics also show that preventive medicine pays off, so don’t wait until your doctor gives you an ultimatum. Take the initiative to get active now.

### Methodology

The purpose of the this study is to compare the physical fitness among the Rural high schools boys and Urban High School boys students. To achieve this purpose, 60 rural high schools boys students 60 Urban High School boys students were taken as randomly from the above said schools in Chittoor district Andhra Pradesh.

The age group of these students is 14 & 15 years. These groups were then tested with the help of AAHEERD – [American alliance for Health, Physical Education, recreation and Dance – Established – American Association for Health, Physical Education, recreation in 1958, USA.] Youth Fitness Test to find out the physical fitness of the boys in Chittoor District. The researcher selected AAHPERD Youth Fitness Test because, it is considered to be the most reliable and valid of all the tests of fitness.

### PHYSICAL FITNESS

Sit –ups (Abdominal Muscle Endurance )

The collected data on sit-ups (Abdominal Muscle Endurance) of Rural high schools boys and urban high schools boys have been statistically analyzed and presented in table-1

Table-1: Comparison of analyzed data on sit-ups (60 seconds) between rural and urban high school boys of Kadapa District, Andhra Pradesh.

Group	Means	M D	S D	T - Ratio
Rural High School	27.87		7.31	
		2.45		0.77
Urban High School	25.42		6.05	

Table 1 shows that mean value of sit-ups (60 seconds) Abdominal Muscle Endurance of Rural high school boys is 27.87 and urban high schools boys is 25.42 and mean points of Rural schools boys is more than points of urban high school boys by 2.45 points on sit-ups.

The obtained "t" ratio of 0.77 indicated that the significant difference in points of sit-ups by Rural high schools boys and Urban high schools boys at 0.05 level of significance at 58 degree of freedom.

Hence the difference is considered as significant in sit-ups is in favor of Rural high school boys

Standing Broad Jump (Leg strength and explosive power)

The collected data on standing Board Jump [leg strength and explosive power) of Rural high school boys and Urban high schools boys have been statistically analyzed and presented in table-2

Table-2 Comparison of analyzed data on standing board Jump (meters) between Rural and Urban High school boys of Kadapa District, Andhra Pradesh.

Group	Means	M D	S D	T - Ratio
Rural High School	2.17		0.32	
		0.20		6.67
Urban High School	1.97		0.28	

Table-2 shows that mean value of Standing Board Jump (in meters) leg strength and explosive power of rural high school boys is 2.17 and urban high school boys is 1.97 and mean number of meters of standing Board Jump by Rural high school boys is more than the mean meters of jump by Urban high school boys by 0.20 meters. The obtained "t" ratio of 6.67 indicated that the significant different in meters of standing board Jump by Rural high school boys and Urban high school boys at 0.05 level of significant at 58 degree of freedom. Hence the difference is considered as significant in standing board Jump is in favour of Rural high school boys.

Shuttle Run (speed and agility):

The collected data on Shuttle Run (Speed and Agility) of Rural high schools boys and urban high school boys have been statistically analyzed and presented in table-3

Table -3: Comparison of analyzed data on Shuttle Run (seconds) between Rural and Urban high schools boys of Kadapa District, Andhra Pradesh.

Group	Means	M D	S D	T - Ratio
Rural High School	15.25		0.83	
		0.74		9.93
Urban High School	15.99		0.96	

Table -4.3 shows that mean value of shuttle Run (in seconds) speed and Agility of Rural high school boys is 15.25 and Urban high school boys is 15.99 and Mean seconds of rural high school boys is less than the mean seconds of Urban high school boys by 0.74 seconds is completed their shuttle race.

The obtained "t" ratio of 4.93 indicated that the significant difference in points of Shuttle Run by Rural high school boys and urban high schools boys at 0.05 level of significant at 58 degree of freedom. Hence the difference is considered as significant in Shuttle is in favor of high school boys.

3. 50 Yards Run (speed)

The collected data on 50 yard Run (speed) of Rural high school boys and urban school boys have statistically analyzed and presents in table- 4

Table- 4: Comparison of analyzed data on 50 yards run (second) between Rural and Urban high school boys of Kadapa District, Andhra Pradesh.

Group	Means	M D	S D	T - Ratio
Rural High School	7.37		0.33	
		0.20		2.86
Urban High School	7.59		0.66	

Table 4 shows that mean value of 50 yards run (seconds) speed of rural school boys is 7.37 and urban high school boys is 7.59 and mean seconds of Rural high school boys is less than the mean seconds of urban high school boys by 0.22 seconds is completed their 50 yards (46 meters) run. The obtained "T" ratio of 2.83 indicated that the significant difference in points of 50 yards Run by Rural high school boys and urban high schools boys at 0.05 level of significance at 58 degree of freedom. Hence the difference is considered as significant in 50 yards run is in favour of rural high school boys.

600 yards run (Endurance):

The collected data on 600 yards run (Endurance) of Rural high school boys and Urban high school boys have been statistically analyzed and presented in table-5

Table 5: Comparison of analyzed data on 600 yards runs (mints) Endurance between Rural and Urban high school boys of Kadapa District, Andhra Pradesh.

Group	Means	M D	S D	T - Ratio
Rural High School	1.85		0.26	
		0.16		6.15
Urban High School	2.01		0.28	

Table 4.5 shows that mean value of 600 yards run (mints) Endurance of Rural high school boys is 1.85 and Urban high school boys is 2.01 and Mean seconds of Rural high school boys is less than the men seconds of Urban school boys by 0.16 seconds is completed their 600 yards (546 meters ) run.

The obtained "t" ratio of 6015 indicated that the significant difference in points of 600 yards run by rural high school boys and urban high schools boys at 0.05 level of significant at 58 degree of freedom. Hence the difference is considered as significant in 600 yards run us in favor of rural high school boys.

### Discussions of Findings

The findings of the study and discussions are presented here briefly.

Physical Fitness The difference between the means of the Rural and Urban high school boys in the physical fitness variables. The 60 seconds sit-ups (0.77) shuttle race 30 feet distance of six rounds ups 180 feet have been completed (4.93), 50 yards (46 meters) run (2,86) and 600 yards (546 Meters) run (6.15) were found to be satisfactorily significant at 0.05 percent level of confidence. From these findings we understood that the rural high school boys ate better than the Urban high school boys in all respects.

### Summary

The purpose of study was to find out and comparative physical fitness of rural and urban school boys of Kadapa district, Andhra Pradesh. 60 subjects from each rural school and Urban High Schools boys in the age group of 14-15 years were selected. The subjects selected were administered AAHPERD youth fitness test which measures five elements of physical fitness battery. The data collected from these respondents were converted into normal scores and are statistically analyzed with the two groups to find out the physical fitness. In addition to their academic time table, a special games period is also allotted every evening. Where as in urban high school boys, even though, they are provided with special games period, it was observed that the training methods were not better comparatively. More over, the commitment on the part of urban high schools management to games for the students were not appeared to be high. Further, in addition the rural school gain the advantage of environment which provide better environment condition comparatively to the urban high schools.

### Conclusion

The following conclusions may be drawn from the requests presented in the previous chapter. The study shows that the physical fitness of rural school boys is above average The Rural high schools boys posses more physical fitness when compared to urban high school boys. The rural high schools boys are superior to the urban school boys in almost all the components of physical fitness

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## Characteristics of Height and Weight Development of Vietnam General Pupils across Educational Levels (6-17 years old)

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### Abstract

Through pedagogical method of testing, monitors along 2 two morphological indexes of height and weight of Vietnam regions general pupils from grade 1 to grade 12, then conducts analysis, comparison to find out the characteristics of height and weight development for Vietnam general pupils across each educational level.

**Keywords:** height development, weight development, Vietnam general school pupils.

**Article source:** Excerpts from the ministerial level topic: "Researching physical development of pupils from grade 1 to grade 12 (the time from 2003 to 2014)".

### Introduction

Human morphological indexes, include height and weight indexes which often occur in ascending development trend in schoolchildren age stage (6-17 years old). However, depending on geographical features and races in every region, every country, the development in height and weight also differs. Knowing the characteristics of development of 2 height and weight morphological indexes for general pupils will help us determine the time, positive, appropriate impact method (nutrition, exercise. ..) to pupil constitution, in order to promote more strongly the development of such 2 indexes, thereby contributing to gradually improve and enhance the stature for general pupils in particular and Vietnamese stature in general. Originated from the above reason, we conduct research, analysis of development characteristics of height and weight morphological indexes for Vietnam general pupils across all educational levels (from 6-17 years).

### Methodology

In order to carry out the proposed research contents, we have used the research methods: Synthetic method of analysis documents, Pedagogical test method and statistical mathematical method.

### Findings And Discussions

#### 1. Characteristics of development of Vietnam general pupils across educational levels.

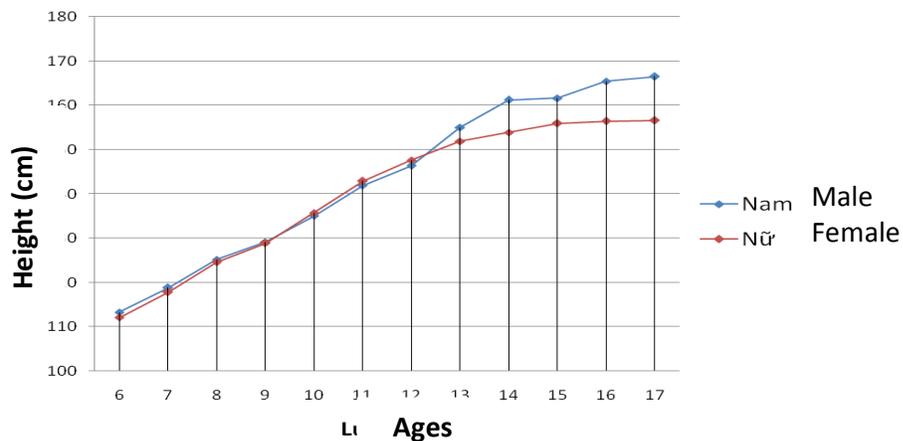
The topic on the basis using pedagogy test methods, monitors along the pupils height index from grade 1 to grade 12 (6-17 years old), then proceed to analyze the characteristics of the development height of male and female students in each class and each educational level (level 1, level 2 and level 3, corresponding to the stage aged from 6-10 years old, 10-14 years old and 14-17 years old). Inspection findings are presented in table 1.

**Table 1:** Characteristics of development and growth pace of Vietnam male and female general pupils across each school year (2003-2014)

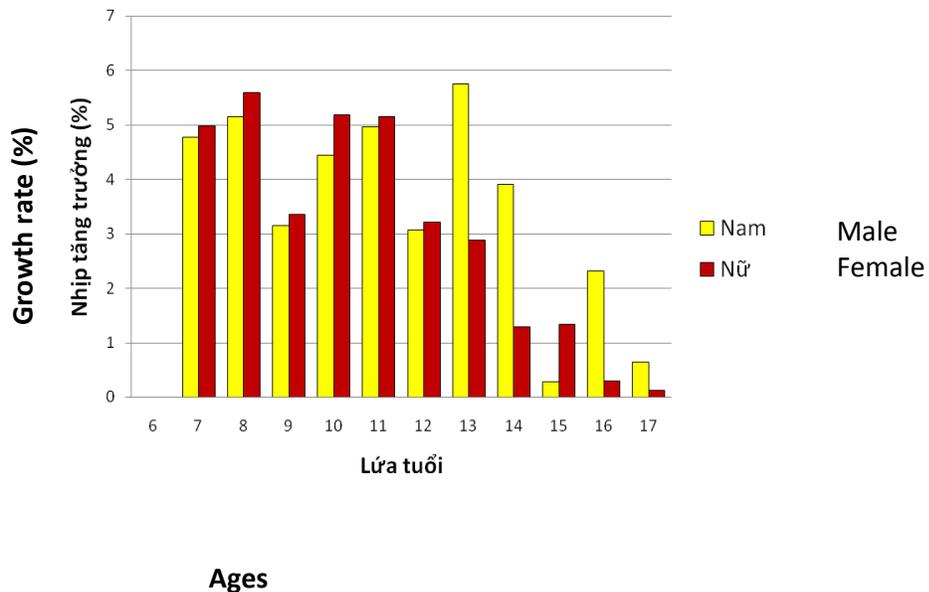
No.	Ages	Gender								W difference between Male and female (%)
		Male				Female				
		n	Height (cm)		W (%)	n	Height (cm)		W (%)	
	$\bar{x}$	$\pm \delta$			$\bar{x}$	$\pm \delta$				
	6 ages	1497	113.30	5.78		1413	112.10	5.67		
	7 ages	1492	118.85	5.74	4.78	1411	117.83	5.71	4.98	-0.20
	8 ages	1485	125.15	6.77	5.16	1384	124.62	6.58	5.60	-0.44
	9 ages	1474	129.17	6.34	3.16	1375	128.88	6.62	3.36	-0.20
	10 ages	1452	135.03	6.97	4.44	1354	135.73	8.1	5.18	-0.74
	11 ages	532	141.91	10.11	4.97	497	142.91	6.61	5.15	-0.19

12	ages	523	146.34	9.30	3.07	485	147.58	6.61	3.22	-0.14
13	ages	518	155.01	8.85	5.75	473	151.89	5.62	2.88	2.88
14	ages	510	161.19	8.01	3.91	470	153.87	5.64	1.30	2.61
15	ages	292	161.64	7.67	0.28	313	155.95	6.57	1.34	-1.06
16	ages	288	165.44	6.42	2.32	303	156.42	4.82	0.30	2.02
17	ages	278	166.50	6.09	0.64	290	156.62	4.51	0.13	0.51

Test findings obtained in table 1 show, the height of both men and women has increased over the years, and this is fully consistent with the laws of natural development. In particular, from grade 1 to grade 7 (6-12 years old), although the height of men and women is nearly equally developed (sometimes quickly, sometimes slowly), but the pace of growth in height of female pupils is always higher than that of boys of the same age. Then, when starting turning to age 13, height and height growth rate of male pupils become higher than female pupils. Especially from 11-14 years old, the male height increases up to 19.28cm. And the growth rate of female height decreases from age 11 to 17 years old. We can easily see these characteristics of height development in chart 1 and chart 2:



**Chart 1:** Characteristics of height development of Vietnam male and female general pupils from 6-17 years old (2003-2014).



**Chart 2:** Characteristics of height growth rate of Vietnam male and female general pupils from 6-17 years old (2003-2014).

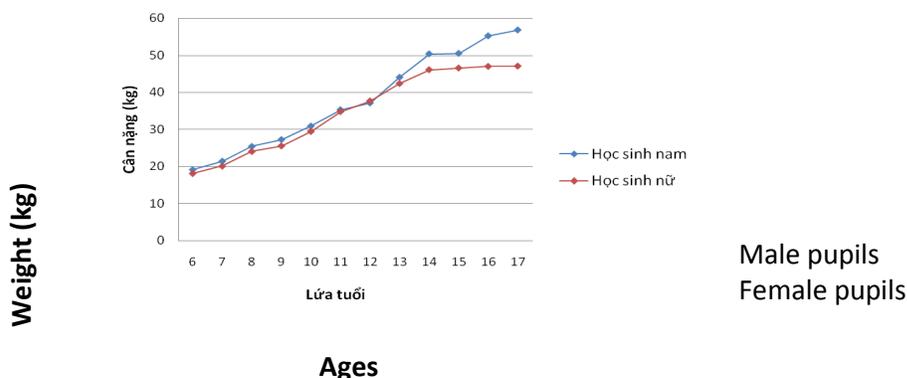
**2. Characteristics of weight development of Vietnam general pupils across educational levels.**

To determine weight development of the Vietnamese general pupils through the educational levels, the topic also uses pedagogical method of testing, monitoring along the weight index of general pupils from grade 1 to grade 12 (6-17 years old) in the regions, then analyzes weight development characteristics of male and female pupils in each class and each educational level. Inspection findings are presented in table 2.

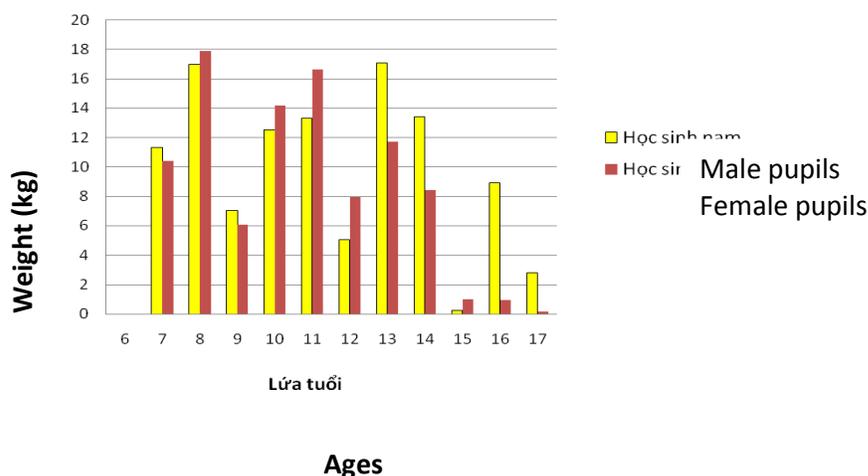
**Table 2:** Characteristics of weight development and growth pace of Vietnam male and female general pupils across each school year (2003-2014)

No.	Ages	Gender								W difference between Male and female (%)
		Male				Female				
		n	Weight (kg)		W (%)	n	Weight (kg)		W(%)	
	$\bar{x}$	$\pm \delta$			$\bar{x}$	$\pm \delta$				
	6 ages	1497	19.13	4,24		1413	18.15	3,59		
	7 ages	1492	21.43	5.29	11.34	1411	20.14	4.18	10.39	0.95
	8 ages	1485	25.41	6.77	16.99	1384	24.09	6.58	17.86	-0.87
	9 ages	1474	27.26	6.34	7.02	1375	25.6	6.62	6.08	0.95
	10 ages	1452	30.9	6.97	12.52	1354	29.5	8.1	14.16	-1.64
	11 ages	532	35.31	8.28	13.32	497	34.84	6.69	16.60	-3.28
	12 ages	523	37.14	8.65	5.05	485	37.72	6.82	7.94	-2.89
	13 ages	518	44.07	9.33	17.07	473	42.41	6.65	11.71	5.36
	14 ages	510	50.4	9.46	13.40	470	46.14	7.05	8.42	4.98
	15 ages	292	50.53	7.86	0.26	313	46.61	6.36	1.01	-0.76
	16 ages	288	55.25	8.82	8.92	303	47.04	5.80	0.92	8.01
	17 ages	278	56.83	8.92	2.82	290	47.12	5.58	0.17	2.65

Test findings obtained in table 2 show, the weight development of both men and women has increased gradually by each year, however, the average weight of male pupils is always higher than the average weight of the female pupils (except for age 12). In addition, during the development of general pupils' ages (6-17 years old), the weight development of boy and girl pupils in the period from 6-13 years of is relatively similar. However, during this period, at the ages of 10-12 years old, the girl pupils' weight tends to rise higher than boy pupils, representing the female pupils' weight growth rate in from 10-12 years old which is higher than male pupils of the same age. Thereafter, from age 13 onwards, the weight of female has increased very little (but still tends to gradually increase), in particular: 13-17 years old, the female pupils only gain an average of 4.71 kg. Meanwhile, from 13 onwards, the weight of male pupils increases more, particularly: 13-17 years old, the male weight increases 12.76 kg. To see clearly the characteristics of weight development and growth rate of Vietnamese male and female general pupils between the ages of schooling (6-17 years old), we can observe through charts 3 and 4.



**Chart 3:** Characteristics of weight development of Vietnam male and female general pupils from 6-17 years old (2003-2014).



**Chart 4:** Characteristics of weight development of Vietnam male and female general pupils from 6-17 years old (2003-2014).

### Conclusion

1. The height development of Vietnamese male and female general pupils increases gradually over general school years (6-17 years old). However in the first half of the general schooling process (6-12 years old), the height growth rate of female pupils is higher than the male pupils. Then, from age 13 onwards, the height and height growth rate of male pupils become higher than female pupils.
2. The weight development of both men and women has increased gradually by each year (6-17 years), however, the average weight of male pupils is always higher than the average weight of the female pupils (except for age 12). In the period of 6-13 years old, the weight development trend of male and female is relatively similar. However, at the ages of 10-12 years old, the weight growth of female pupils is higher than male pupils. Thereafter, from age 13 onwards, the weight of female has increased very little (but still tends to gradually increase), whereas, the weight of male pupils increases more strongly.

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## A Study Of Pre-Competitive Anxiety Level Among Junior Hockey Athletes

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### Abstract

The main purpose of this study is to compare pre-competitive anxiety between male and female junior hockey athletes in Malaysia. A group of 144 hockey players (male=72 and female=72) were selected from different state affiliated to Malaysian Sport School Council through purposive sampling technique. Their age was ranged from 14 to 18 years. Data were collected from athletes using a Revised Competitive State Anxiety Inventory -2 (CSAI-2R: Cox et al., 2003).Independent sample t-test was used to test the level of anxiety level between male and female athletes. The significance level was determined as  $p < 0.05$ . Finding revealed that wassignificant difference between male and female hockeyathletes in cognitive anxiety and there was no significant difference in somatic anxiety. Female athletes have higher anxiety level in cognitive and somatic pre-competition anxiety compared to male athletes.

Keywords: *athletes, anxiety, cognitive, somatic*

### Introduction

Sports Psychology is the scientific study of people and their behaviour in sport (Singh&Gaurav, 2011). It deals with increasing performance by managing emotions and minimizing the psychological effects of injury and poor performance. Some of the most important skills taught are anxiety, goal setting, relaxation, visualization, self-talk, concentration, motivation, attribution training and periodization. It had been recognized for many years that psychological factors, in particular anxiety, plays an important role in competition (Singh & Gaurav, 2011; Lizuka, et al., 2005). In sports psychology, anxiety refers to an unpleasant emotion which is characterized by vague but persistent feeling of apprehension and dread (Cashmore, 2002). Anxiety consists of two sub-component, namely cognitive and somatic anxiety, which influence performance before and during competition (Anshel, 2003; Jarvis, 2002; Lazarus, 1991; Martens et al., 1990; Weinberg & Gould, 1999) define competitive anxiety as an immediate emotional state characterised by feelings of apprehension and tension associated with the body's reactions in competitive situations. Cognitive anxiety is the mental component, which is characterized by negative expectation about success, negative self-talk, worry about performance, images of failure and inability to concentrate (Jarvis, 2002; Martens et al., 1990). The somatic anxiety is the physiological element which is related to autonomic arousals and negative feeling of nervousness, high blood pressure, muscular tension, dry throat;rapid heart rate sweaty palms (Jarvis, 2002). The somatic elements include the physiological and emotional components of anxiety and stem directly from organismic activation (Martens et al. 1990). When discussing competitive anxiety, even professional players who have high anxiety show an increase in physiological arousal when placed in a state of anxiety.

Competitive anxiety is the tendency to assess confrontational situations as dangerous and respond accordingly with feelings of tension and apprehension (Martens et al. (1990). This anxiety quickly escalates immediately before competition and quickly decreases afterwards (Gould, Petlichkoff& Weinberg, 1984). This specific sensation, which typically occurs during the 24 hours leading up to a competition, is known as pre-competitive anxiety. Pre-competitive anxiety has been a major focus of research in the field of sports psychology. Studies have verified that a high level of anxiety prior to competition can hinder athletic performance (Burton, 1988).

Numerous studies have revealed that amateur players suffer more anxiety than professional players. Indeed, as the players' playing period increases, his anxiety level decreases. Professional players

have paranormal ability to play with low level anxiety (Mohammad et al., 2014). The results of various researches indicate that different factors are involved in pre-competition anxiety. Nelson et al. (2007) and Ivan (2002) believe that competitive anxiety and stress in important competitions as well as delicate performances performed with numerous audiences weaken the performance. The researches of Joel et al. (2009) and Cristina (2004) showed that the kind of sports, nature of sports (individual or group-based) and gender of athletes are important factors affecting their performance. They stated that female athletes compared to male ones experience higher levels of mental and somatic anxiety. Mamassis (2004) also identifies competitive anxiety as a factor in decreasing self-confidence and concentration in tennis players. In relation to two factors which are suitable reaction and speed in tennis, competitive anxiety with negative effect on concentration could decrease precision and eventually lead to performance downfall in athletes. Maxwell (2004) believes that anger especially in contact sports (hockey, American football, boxing and karate) has a significant effect on creating motivation and performance of athletes. Researchers who have investigated the area of competitive state anxiety have, to a lesser extent, dealt with gender differences in the level of pre-competitive anxiety. Esfahami&Soflu (2010), using a sample of 82 females and 88 males university volleyball players, established significant gender differences in all state anxiety components. Female volleyball players, in comparison to male volleyball players, expressed a significantly higher level of somatic and cognitive anxiety component, as well as self-confidence. The purpose of this study is to compare pre-competition's anxiety level between male and female hockey athletes participating in hockey tournament held by the Malaysian Sports School Council.

### **Methodology**

**Material & methods :** This study adopted a quantitative research approach through survey. This section presents the sampling, instruments, data collection and data analysis of this study.

**Sampling:** Data for the study were collected from 144 junior hockey athletes (72 males & 72 females), who ranged in age from 15 to 18 years (Mean = 16.38, SD = 0.92). An informed consent was obtained from each participant prior to the completion of the questionnaires.

#### **Instrument**

Competitive anxiety was measured using a Malay version (HairulAnuar& Erie-Zuraidee (2010) of the Revised Competitive State Anxiety Inventory: CSAI -2R (Cox et al., 2003). The CSAI-2R, developed by Cox et al. (2003), is a 17-item inventory, with seven items measuring somatic anxiety and five items measuring cognitive anxiety and five items measuring self-confidence. The CSAI-2R was widely used by sports psychologists for measuring state anxiety associated with competition in sports. The psychometric validity of the CSAI-2R has been demonstrated by Cox et al. (2003). Examples of cognitive anxiety items include "I am concerned about losing" and "I am concerned about reaching my goal", while somatic anxiety items include "My heart is racing" and "My body feels tight". The intensity response scales ask each participant to rate the intensity with which they experience each anxiety symptom prior to a competition on a Likert scale ranging from 1 ("not at all") to 4 ("very much so"). In the present study, the internal reliability coefficients were satisfactory, with alpha =0.77 for the cognitive subscale, alpha 0.65 for the somatic subscale and alpha 0.76 for the self-confidence.

### **Data collection**

Field method is used for a data collection in this research. After arranging an appropriate time and with the agreement of authorities and team leaders, the researcher met up with the participants. All of the players were informed of the objective of the study, the voluntary nature of their participation, the absolute confidential nature of the answers given and the data produced by the study and that there were no right or wrong answers. They were also asked to respond with the highest degree of sincerity and honesty. After the researcher expounded on the purpose and significance of the research to the runners, the participants started filling in the questionnaires.

#### **RESULT**

The results of data analysis showed that female hockey players had higher mean scores in cognitive anxiety (Mean= 2.69; SD=.59) and somatic anxiety (Mean =1.99, SD=.52), subscales compared to male ones (Mean = 2.30; SD =.58) and (Mean =1.95; SD=.50) that is an indicator for higher cognitive and somatic anxiety levels in female hockey players (Table 1).

Table 1: Mean and Standard Deviation of Pre-Competitive Anxiety

Subscale	Gender	N	Mean	Std. Deviation
Cognitive anxiety	Male	72	2.30	0.58
	Female	72	2.69	0.59
Somatic anxiety	Male	72	1.95	0.50
	Female	72	2.00	0.52

Table 2 present the independent-samples t-test of pre-competitive anxiety between male and female hockey athletes. The results revealed that there were significant differences between the scores of male athletes (M=2.30; SD=.58) and female athletes (M= 2.69; SD=.59) in cognitive anxiety,  $t(142) = -4.007$ ,  $p < 0.001$ . The results also showed there were no significant differences between male athletes (M=1.95; SD=.50) and female athletes (M=2.00; SD=.052) in somatic anxiety,  $t(142) = -.515$ ,  $p > 0.608$ .

Table 2: Independent Sample T-test between Genders

Subscale	T-test for Equality of Means		
	t	df	Sig. (2-tailed)
Cognitive Anxiety	-4.007	142	.001
Somatic Anxiety	-.515	142	.608

## Discussion

The results indicated a significant difference in pre-competitive anxieties between male and female hockey players. There were significant differences between the male and female athletes in cognitive and somatic subscale. Female athletes scored higher level of pre-competitive anxiety. This study is consistent with a study conducted by Allaway (2013), Esfahani&Soflu (2010), Filaire (2009), Krane&William (1994), Martens et al. (1990) and Singh & Gaurav (2011) who reported that cognitive anxiety level of female athletes were higher than male athletes. The results confirm that regulation of anxiety level of the female athletes needs more attention from the sports psychologists and coaches. They should select appropriate anxiety management for the female athletes who would be able to adopt coping strategies in preparing themselves for the forth coming competitions. In an investigation into the effects of competitive anxiety and self-confidence on individual and team-based athletes, Eric (1996) reported that there was no significant relationship between male and female athletes in competitive anxiety and self-confidence level. But when they were investigated based on the nature of sports field (individual and group-based), it became clear that female athletes had higher cognitive and somatic anxiety and lower self-confidence compared to male ones. These results are consistent with the results of the present research.

According to Montgomery (1994) and Lewinsohn et al. (1998), female athletes generally exhibit higher anxiety than male because of the biological factors and their roles in the society. For example, the society can accept if females athletes show fear, nervousness, worry but not the males (Singh & Gaurav, 2011 & Montgomery, 1994). According to Mahoney and Meyer (1989), athletes with different level of skill show different levels of competitive anxiety. On the other hand, athletes with low level of skill, like those whose highest achievement is taking part in school competitions normally experience higher levels of competitive anxiety. Meanwhile, athletes whose highest achievement is taking part in state or national level competitions experienced low level of anxiety (Singh & Gaurav, 2011).

In addition, Martens et al. (1990) reported that individual or team sports is also likely to affect the dimensions of anxiety among athletes. Report by Martens et al. (1990) was supported by Esfahani&Soflu (2010) and Singh &Gaurav (2011) who conducted a study among volleyball athletes and the finding was consistent with the findings of this study. Similarly, findings by Filaire (2009); Krane&William (1994), Martens et al. (1990) and Turkmen et al. (2013) revealed that female athletes in individual events such as tennis were reported to have higher levels of anxiety than male athletes. Generally the level of anxiety not only to the individual events but team events in sports as well (Marten et al., 1990).

## Conclusion

Based on the results of this research it can be concluded that female hockey players have higher cognitive and somatic anxiety compared to male players. This study will provide guidelines for coaches in training and instructing players. Future studies should conduct qualitative approaches in order to get insights of the factors which may contribute to the present findings.

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## **Influence Of Centrifugal Force In Curve Running On Different Lanes Of Cinder And Synthetic Tracks**

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### **Introduction:**

Athletics is the basic sport for all and so it has assumed great importance in recent years. The physical educationists, coaches and sports scientists of today are becoming more aware of the scientific information related to the athletes' potential proficiency in sports. Research in nutrition, psychology, biochemistry and physics have contributed much to the improvement of performance level of athletes in various competitive sports of today. In recent years the sports scientists have taken interest in the analysis of human movement in various sports activities making use of the laws of physics. Running is a fundamental natural human movement, which is essential to successful performance in many sports and games. In competitive track and cross country it is the primary activity, the essence of the sport. Considerable interest in distance running can be found throughout the world as indicated by the number of runners participating in national and international competitions. The increased enthusiasm for running has been accompanied by expanded interest on the part of the scientists concerned with various aspect of the sport which has resulted in better methods of training. Once a runner approaches, his maximum physiological state, continued improvement in performance becomes extremely difficult, so that the possibility to improve efficiency is to alter the style of the runners which ultimately results in the proper use of their energy. Certain forces, developed as a result of rotary motion, are an aid to performance in some activities and in others are a handicap that must be off set. These forces are called centrifugal forces. Centrifugal force is that force which tends to cause a rotating body to fly off at a tangent to its circle of movement or away from the centre of rotation. Every one is confronted with centrifugal force when running on a curve, in all swinging activities on the high bar, the parallel bars, the horse, or the buck; in running the bases in baseball; in throwing the discus or hammer; in putting the shot; in broken field running in football; in any activity where it is desired to make a change of direction abruptly.

### **Hypotheses**

It was hypothesized that the Centrifugal force might vary in relation to the different angle of Lean in curves in cinder track. It was hypothesized that the Centrifugal force might vary in relation to the different angle of Lean in curves in Synthetic track. It was hypothesized that the angle of lean might vary in relation to the different radii of the curves in cinder track. It was hypothesized that the angle of lean might vary in relation to the different radii of the curves in synthetic track.

### **Delimitations**

This study was confined to thirty Men Inter college level athletes of Osmania University, Hyderabad. The athletes for this study were selected in the age group of eighteen to twenty one years. The study is delimited to the changing influence of centrifugal force on different surfaces of cinder and Synthetic tracks only. The data for this study were collected in standard cinder and synthetic tracks only at Railway Recreation Club, Secunderabad for cinder and GMC Balayogi, Gachibouli Stadium, Hyderabad, for Synthetic track.

## LIMITATIONS

The study was conducted only to the, Inter college athletes of Osmania University only. The Present study is considered angle of lean in relation to different radii of curves in cinder and synthetic standard tracks. The Present study is limited to the influence of centrifugal force in curve running on different lanes of cinder and synthetic tracks only. Weight of the subjects were taken in to consideration for this study to tabulate the magnitude of the centrifugal force acting on the body in curve running on cinder and synthetic Tracks. No attempt is made to control the factors like air resistance, intensity of light atmosphere and temperature during testing period.

## Administration Of The Test

For this study only one group of thirty Men athletes were selected. Since the data for this study were collected during the course of eight days and as no experimental treatment was involved, this study had been designed as a status study.

Subjects will be asked to perform their traditional warm up before a task or race. Each subject will be given five minutes rest between sprints to avoid fatigue and ensure maximal effort. The study will consist eight days of testing. In order to evaluate the performance of the subjects in curve running eight lanes are marked in cinder and synthetic 400 (synthetic track marking was already done and the same was utilized for collecting data) meters tracks. The width of each lane was one meter and twenty two centimeters. Each straight of the track eighty meter and the distance to be covered in both curves was totally 240 meters. In order to equalize the distance to be covered in the curves, the other lanes were staggered except the first lane.

Sprinting speed will be assessed using two time keepers'. The first time keeper will be placed at the axis of the first curve and the second time keeper will be placed at the axis of the second curve to ensure that each subject is exerting maximal effort on each trial. Before the administration of the test, all the subjects were oriented to the objective and the procedure of the test. The test was administered both in the morning and evening sessions on the consecutive days. The test was administered in the cinder track of Railway Recreation Club, Secunderabad, and synthetic track of GMC Balayogi Synthetic track stadium at Gachibowli, Hyderabad.

## Collection Of Data

The subjects were asked to run 400 meters in the cinder track and the time taken by each athlete in the first and second curves of each lane was recorded separately. For each athlete two time keepers were allotted, one for the first curve and the other for the second curve of each lane. The time keepers had taken a position in the axis of the curve so that they could have a clarity of the subjects starting and the finishing of the distance in the first curve and the second curve of each lane separately. In the same way each athlete was asked to run in all the eight lanes are in the morning on cinder track and are in the evening on synthetic track and the time was recorded. The time taken by each athlete to complete the curve running that was 240 meters was calculated by adding the time taken to finish the first curve and the second curve of the each lane. Thus, the data were collected both in the morning and evening sessions every day.

## Tester Competency

To ensure the reliability, ten subjects were selected, a pilot study was conducted on the chosen variable and the tester reliability was established by test and re-test process. By using Pearson's Product Moment Correlation, the reliability coefficient was obtained and presented in Tables

The obtained reliability coefficient 'r' was significant at 0.01 level of confidence as it was higher than the table value (0.735 for df = 9) at 0.05 level of confidence.

After collecting data the angle of lean was computed for each athlete on different lanes of both cinder and synthetic tracks separately. The angle of lean was calculated by using the formula as suggested by Bunn and the corresponding angle was found out from the conversion table.

$$\tan \theta = V^2/gr$$

where ,

$\theta$  = angle of lean

V = Velocity

g = force of gravity

r = radius of the lane

The velocity was computed by using the formula.

$$V = D/t$$

Where

D = distance covered in curves

t = Time taken to cover the distance in curves.

**TABLE 1 Analysis of variance of angel of lean in cinder track**

Source of variance	Sum of Squares	Degrees of Freedom	Mean Square	Obtained F-Ration	Tabulated F- Ratio
Total (SS <sub>T</sub> )	8274	239	-	-	-
Treatment (SS <sub>B</sub> )	193	7	27.57	0.79	3.16
Error (SS <sub>W</sub> )	8081	232	34.83	-	

Insignificant at 0.05 level of confidence.

**TABLE 2 Ordered angle of lean Means and the differences between the Means on different lanes of cinder track**

Lanes	2	3	4	5	6	7	8
1	0.06	0.08	0.27	0.01	0.22	0.04	0
2		0.12	0.21	0.07	0.22	0.10	0.06
3			0.09	0.19	0.04	0.22	0.18
4				0.28	0.05	0.31	0.27
5					0.23	0.03	0.01
6						0.26	0.22
7							0.04

**TABLE-3** Showing the influence of centrifugal force on different lanes of cinder track.

SL.No	LANE ONE	LANE FOUR	LANE EIGHTH
1	60.314	53.227	46.362
2.	61.450	53.943	47.085
3.	61.605	57.442	51.824
4.	62.437	58.347	53.943

**TABLE-4-** Showing the influence of centrifugal force on different lanes of Synthetic track.

SL.No	LANE ONE	LANE FOUR	LANE EIGHTH
1	56.349	49.854	41.408
2.	57.442	49.220	44.965
3.	64.441	54.022	43.372
4.	62.378	54.682	49.117

### Summary

The main purpose of the study was to evaluate the magnitude of centrifugal force in curve running on different lanes of cinder and synthetic tracks. The other purpose of the study understands the speed difference and provides insight in to how centrifugal force influence on cinder and synthetic tracks.

**Conclusions;** From the results of the above study the following conclusions are drawn. There was no significant difference in the angle of lean in relation to different radii of the curves, in cinder and synthetic tracks as well. There was no significant difference in the angle of lean in relation to the surface of cinder and synthetic tracks. There was also insignificant differences exists in centrifugal force acting on the body

**Recommendations:** Based on the results of the study, the following recommendations are made. Similar study can be undertaken for state and national level Men and Women athletes. The same study may be conducted for the athletes representing Indian Universities. Further, the same study may be conducted on banked tracks as in cycling velodromes to find out the lean in that curves.

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## **Effect Of Circuit And Interval Training On The Performance Of Running Between The Wickets In Cricket**

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N. Rajendra Ph.D Scholar, DPE, YVU, Kadapa**

### **Introduction**

In the present world great importance and prominence are given to sports and games. Even under developed countries are interested in competitive sports and winning in the international sports and games competition.

People all over the world are of the idea that the development of a country is significantly notable and related to the development of sports and games in that country. For example, it is evident, that the results of the past Olympic games and sports clearly indicate that highly developed countries only take the rank in the medals tally as in the case of United States, China, Germany etc.

It is also to be understood that a country which exhibited better performance in the field of sports and games will result in its worth in other fields like industry, science, Technology, Economic status, etc. Thus is the main reason for all the nations taking active interest in the field of international sports and games competitions.

### **Methodology**

The procedures followed in the selection of subjects, selection of variables, reliability of the data, orientation of subjects, pilot study to construct the training programme, training programme, collection of data, experimental design and statistical procedure adopted to analyze the data are presented.

#### **Selection of Subjects**

Forty four boys were selected at random from a group of students (N-110), who volunteered to be the subjects for the study, from Zilla Parishad High School, Tangutur, School curriculum has regular physical education classes in which they learn calisthenics, Yoga, indigenous games, major games and sports are recreational level. However the school students were taking part in inter – school competitions without undergoing any specific and systematic training. The selected subjects are height and weight ranged from 15 years to 16 years, 152 Cms to 174 cms and 37 kgs to 58 kgs respectively. The means of age height and weight were 15 year 4 months, 162 cms. and 45.5 kgs respectively. The subjects were attached at random to one of the two groups in which group I acted as control group and group - II underwent circuit and interval training. The subjects were free to withdraw their consent in case they felt any discomfort during the period of their participation but there were no dropouts in the study qualified physician examined the subjects medically and declared that they were fit for the study.

#### **Selection of Variables**

Performance between the wickets is an important part in the game of cricket. A good team is that runs well between wickets. All great batsmen have been good runners between the wickets. Especially in the one day game a single run may be crucial for victory. A good runner between the wickets may attribute to 15 to 20 runs in a one day game. So the scholar selected running between the wickets as the criterion for this study.

#### **Collection of the Data**

After establishing the reliability of the data period to and after the training period the data was collected on running between the wickets performance for both experimental and control groups by following the procedures mentioned below.

To assess the running between the wickets the game of cricket was slightly modified to give every batsman ample time and balls to score single and twos. In the modified game the batsman were divided into pairs at random and alternately and for each pair six over's were bowled. The pair which scored most runs was declared as winner for each legal out six runs were deducted. To motivate the subjects on both occasions a shield was presented to the winning pair.

The time lapsed between the wickets either for a single or two was times by the scholar and two qualified track and field officials. The time of the middle watch was recorded as the performance. Prior to the game all the subjects was asked to run their singles and two's as quickly as possible. Further the best of all singles and two's were considered as one's performance for the analysis. The same method of testing was followed prior to and after training programme.

### **Experimental Design**

The experimental designed used for this study was similar to a random group design involving forty four subjects, who were divided at random into two groups of twenty two each. This study consisted of an experimental variable i.e., combination of circuit and Interval training. Among the two selected groups. Group I, acted as control group and Group II underwent circuit and Interval training. The subjects were tested prior to and after experimentation on performance between the wickets.

### **Summary**

This study was undertaken mainly to analyze the effect of circuit & Interval training on single run and double run performance in cricket among high school boys. The subjects in this study were high school boys of Zilla Parishad High School, Tangutur, Kadapa district. Andhra Pradesh during 2009-2010 academic years. The subjects age ranged from 14 to 16 years. Total strength in this school was 125 out of this 44 subjects were divided into two equal groups randomly. Out of these group one served as control and another group was experimental group. The control group was not given any training. The experimental group was given eight weeks circuit and interval training.

The data on running between wickets performance was assessed prior to and after the training programme for both control group and experimental group. The data was collected in the actual playing station. However the game of cricket was slightly modified to give every batsmen ample time and balls to score single and two. In the modified game the batsmen were divided into Parts at random and for each part six over were bowled. During the course the lapsed time between the wickets and timed by the scholars and two other professional time keepers. The reliability of the data was ensured by establishing testers competency and instrument reliability.

The experimental design involved in this study is random group design. Since both groups were measured for single run and double run prior to and after running programme the analysis of the data was done separately for the single run and for the double run. To test the hypothesis .05 level of significance was selected.

### **Conclusion**

Within the limitations of the study the following conclusion may be derived.  
The findings of this study indicated that the eight weeks Circuit Training improve the running performance between the wickets in crickets

Circuit training is an excellent way to simultaneously improve mobilize strength and stamina

Normal sportsmen can also take the advantage of interval training.

The effect of interval training improves the running between the wickets in cricket for double run.

### **Recommendations**

The result of the study leads to the following recommendation

Combination of circuit and interval training eight weeks will improve running between wickets.

Circuit training and interval training may be compared for their effects on running between wickets performance.

Similar study may be conducted girls as subjects.

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## **A Comparative Analysis On The Health Related Physical Fitness Variables Among Volleyball And Handball Players Of osmania University And Jawaharlal Nehru Technological University.**

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### **Abstract**

The purpose of this study was to compare the selected physical fitness components among Osmania and JNT University men Volleyball and Handball players. To achieve this purpose of the study, twenty Volleyball and twenty Handball players who represented for Osmania and JNT University were selected as subjects. The age of subjects were ranged between 18 to 24 years. The following variables namely measure Muscular strength (The Modified sit-ups test was used), Flexibility (Sit and Reach test was used) were selected as criterion variables. The data were collected for all subjects on selected physical fitness components such as Muscular strength by using Modified sit-ups test, Flexibility by using Sit and Reach test. The one way analysis of variance was used to find out the significant difference among Osmania and JNT University men Volleyball and Handball players. The **Scheffe's** test was used as a post hoc test to find out the paired mean differences, if any. In all cases, 0.05 level of confidence was fixed to test the significance, which was considered as an appropriate. The results of the study showed that there was a significant difference among Osmania and JNT University men Volleyball and Handball players on selected criterion variables namely **Muscular strength and Flexibility.**

### **Introduction**

A sport is in Man's blood. Sports are recreation as well as competition. Basically, sports are individual activities relating and revitalizing in nature and meant to provide opportunities to the individual to make the fullest and the most intelligent use leisure time. According to Clarke, "Physical fitness may be defined" as the ability to carry out daily tasks with vigour and alertness, without under fatigue and with ample energy to enjoy leisure time pursuits and to meet emergencies.

A sport is as old as the human society and it has achieved a universal status in the modern society. It now enjoys a popularity, which outstrips any other form of social activity. It has become an integral part of the educational process as physical education and sports have been included in the regular curriculum. The students are taught various games and sports in a systematic manner. Besides teaching the students are evaluated in their performance. Many people participate in games and sports for getting enjoyment besides deriving physical, mental social and emotional benefits.

Physical fitness is the ability to perform daily activities willingly and actively. Physical fitness includes not only components of sports but those of health as well. Every sport requires a specific fitness or Physiological status, the game of Volleyball, Handball requires different Physical and physiological status than a long distance runner or a basketball player. Some games need different fitness for different places like in football and hockey, Physical and physiological requirement of player playing at different positions are different.

This promoted us to undertake this study with the aim to determine the Muscular strength and Flexibility among Osmania and JNT University men Volleyball and Handball players.

## Hypotheses

1. It was hypothesized that there is a significant difference in selected criterion variables Muscular Strength among the Volleyball and Handball players Osmania and JNT University.
2. It was hypothesized that there is a significant difference in selected criterion variables Flexibility among the Volleyball and Handball players Osmania and JNT University.

## Methodology

The purpose of the study was to compare the Physical fitness components Osmania and JNT University men Volleyball and Handball players. The study was delimited to the Volleyball and Handball players Osmania and JNT University. The study was confined to the measure Muscular strength (The Modified sit-ups test was used), Flexibility (Sit and Reach test was used)

### Reliability of the Data

Establishing the instrument reliability, tester competency, and reliability of the tests, and the subjects reliability ensured the reliability of the data.

### Reliability of Instruments

Indian made stopwatches, calibrated to one tenth of a second, were used, and it was considered reliable. Indian made calipers, calibrated to one tenth of a millimeter, was used and it was considered reliable.

### Level of significance

The methods of inference used to support or reject proposed hypothesis for the present study 0.05 level of significance was used to test the statistical derivatives.

### Statistical Technique Employed:

The data were collected for all subjects on selected physical fitness components such as Muscular strength by using(The Modified sit-ups test)Flexibility by using(Sit and Reach test).The researcher used the statistical techniques like Mean, Standard Deviation, and t-ratio were applied for the present study.

The one way analysis of variance was used to find out the significant difference among university men Volleyball and Handball players. The Scheffe's test was used as a post hoc test to find out the paired mean differences, if any. In all cases, 0.05 level of confidence was fixed to test the significance, which was considered as an appropriate.

## Experimental Results

The collected data on the selected variables between Osmania and JNT University Volleyball and Hand ball players on Muscular strength, Flexibility was subjected for tabulation of Mean, Standard Deviation, and t-ratio. The results pertaining to the hypothesis and their description were presented in the following tables and figures. To find out the significant and insignificant differences on the selected physical variables among the Volleyball and Handball players of osmania and JNT University t-ratio were calculated.

Selection of Variables: With the above criteria's in mind, the following variables was selected for the present study: Muscular Strength and Flexibility

Table: Showing the Mean, S.D and t-values among the Osmania and JNT University Volleyball players in relation to their Muscular Strength.

Muscular Strength (Modified Sit-ups per min)		
	Osmania University	JNT University
Mean	29.55	35.67
S.D	3.291	4.003
t-value	9.144	
Result	Significant at 0.05 level	

It is evident that the calculated value of t-ratio is highly significant that the Osmania University volleyball players are having greater Muscular strength than that of JNT University Volleyball players.

Table: Showing the Mean, S.D and t-values among Osmania and JNT University Volleyball players in relation to their Flexibility.

Flexibility (Sit & Reach Test) in (cm)		
	Osmania University	JNT University
Mean	28.55	29.07
S.D	3.495	4.690
t-value	0.684	
Result	Insignificant	

It is seen from the above table that the tabulated value of t-ratio is 0.684 which is insignificant at 0.05 level of confidence in respect of Flexibility among Osmania and JNT University Volleyball players.

Table- Showing the Mean, S.D and t-values among the Osmania and JNT University Handball players in relation to their Muscular strength.

Muscular strength Modified sit-ups		
	Osmania	J.N.T. University
Mean	33.80	33.03
S.D	4.054	4.547
t – value	0.975	
Result	Insignificant at 0.05 level of confidence	

It is evident from the above table that there is no significant differences exists as the tabulated values of t– ratio is 0.975 which is insignificant compared with the table value in respect of Muscular strength among the Handball players of Osmania and JNT University.

Table Showing the Mean, S.D and t-values among the Osmania and JNT University Handball players in relation to their Flexibility.

Flexibility		
	Osmania University	J.N.T. University
Mean	27.12	29.97
S.D	6.494	4.239
t - value	2.847	
Result	Significant at 0.05level of confidence.	

It is evident from that the Flexibility of Osmania University Handball players are greater than that of JNT University Handball players which is highly significant at 0.05 level of confidence.

### Discussions

The statistical finding of the present study revealed that there was higher Muscular strength in Volleyball players of osmania University players than Jawaharlal Nehru Technological University, Hyderabadthis may be attributed to the fact that all the Volleyball players of Osmania University are basically higher performance at Inter University level competitions. The second selected component of the study on Flexibility, the statistical finding revealed that there was higher Flexibility levels in Volleyball players of osmania University players than Jawaharlal Nehru Technological University, Hyderabad this may be attributed to the fact that all the Volleyball players of Osmania University are basically higher performance at Inter University level competitions.

### Conclusions

With the limitation of the study it may be concluded the following conclusions in relation to their Physical fitness when the subjects were involved in university level competitions. The study further reveals that the Muscular strength of the selected Volleyball players of Osmania University was higher when compared with the Muscular strength levels of the selected Jawaharlal Nehru Technological University, Hyderabad Volleyball players.It is also observed in the study that the Flexibility levels of the selected Handball players of Osmania University were higher than those of Jawaharlal Nehru Technological University, Hyderabad Handball players.

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## Construction Of Physical Fitness Norms Of High School Students Of Kadapa District

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### Introduction

Physical fitness is the capacity to carry out every day activities not only without feeling excessive fatigue but also keeping in reserve more energy to be used in times of emergencies. Naturally this definition is not accurate and concrete for the level of energy spent by individuals in carrying out every day activities is not uniform. Hence physical fitness should mean differently from individual depending upon the nature of his regular activities. Physical fitness is used in the context of two meanings: *General* fitness (a state of health and well-being) and *specific* fitness (the ability to perform specific sports or occupational skills). Fitness can be further subdivided into five categories: Cardiovascular endurance, muscular strength, muscular endurance, flexibility, and body composition. The criteria for physical fitness has also expanded to include the capacity to meet physical demands in an emergency situation.

### Criteria for Selecting Norms

Even though there are many tests to measure the ability of individual, attempt should be made to construct norms. Norms are very useful in classifying the students in particular activity according to their ability. Norms are also used to grade the students.

Educationists have also been interested in this function of measurement. One way of knowing how much a student has achieved is to examine his scores in relation to the scores of others on the same test. In essence the scores of a student can be compared with the scores of other students. Here individual differences are anticipated because some students are expected to perform better than others. This function identifies the test as norm reference.

### Methodology

The selection of subjects, selection of variables, pilot study, reliability of data, orientation of subjects, tests administration and statistical analysis have been presented in this chapter.

### Selection of Subjects

Investigator has selected Five hundred students in five different High Schools randomly in Kadapa District of Andhra Pradesh.

### Selection of Variables

The AAHPERD youth fitness test battery consisting of the following test items, has been conducted to test the corresponding physical fitness as shown below in table -1

Table-1

TESTS FOR CRITERION VARIABLES		
S. No.	Criterion Variables	Test
1.	Strength	Pull-ups
2.	Muscular endurance	Bent Knee Sit-ups (One minute)
3.	Agility	Shuttle run
4.	Explosive power	Standing Broad Jump
5.	Speed	50 Yard dash
6.	Cardio respiratory endurance	600 yard run / walk

Total 500 boys of Kadapa District have been tested. 250 boys from IX standard and 250 boys from X standard are selected from five different High Schools randomly in Kadapa District of Andhra Pradesh and AAHPERD youth fitness test was conducted to them. AAHPERD youth fitness test battery has been administered to total 500 boys.

**Criterion Measures :**The selected tests have been measured by the following units for testing the hypothesis.To find out the shoulder / arm strength, pull-ups test has been conducted and the scores have been recorded in counts.To find out the abdominal / hip muscular endurance Bent knee sit-ups has been conducted for one minute and the number of correctly preformed sit-ups in one minute has been recorded.To find out agility 4 x 10 yards shuttle run has been conducted and the scores have been recorded in one tenth of a second.To find out explosive power of the legs, standing broad jumphas been conducted and the scores have been recorded in centimeters.To find out speed, fifty metres dash has been conducted by using stop watch and the scores have been recorded in one tenth of a record.To find out endurance, 600 yard run / walk test has been conducted and the scores have been recorded in minutes.

**Summary :**The purpose of the study was to construct the norms for physical fitness.To achieve this purpose, the study was conducted on 500 boys studying in high schools in Kadapa District of Andhra Pradesh were selected as the subject. The subjects were between the age group of 13-15 years. The Data was collected by applying the AAHPERD youth fitness test in the following variables, namely shoulder strength (pull ups), abdominal strength (sit ups), agility (shuttle run), power (standing broad jump), speed (50 yard dash) and endurance (600 yard run / walk) for boys. The data was statistically analysed for the construction of Physical Fitness norms to the High School boys. After computing the Means, Standard deviation and Hull scale values, the norm were constructed for each variable.

### **CONCLUSIONS**

One the basis of the hull scale norms in the performance of AAHPERD youth physical fitness test of sit-ups, pull-ups, shuttle run, 50 yard dash. 600 yard run / walk test and standing board jump tests for boys the following conclusions were drawn.

**Pull-ups :**In the construction of norms, for pull ups test 45 subjects were poor, 125 subjects were fair, 100 subjects were average, 50 subjects were good and 100 subjects were very goof and 75 subjects were excellent.

**Bent knee Sit-Ups :**In the construction of norms, for sit ups 45 subjects were poor, 130 subjects were fair, 98 subjects were average, 52 subjects were good and 125 subjects were very good and 50 subjects were excellent.

**Standing Broad Jump :**In the construction of norms for standing broad jump test 40 subjects were poor, 75 subjects were fair, 95 subjects were average, 120 subjects were good, 90 subjects were very good and 80 subjects were excellent.

**Shuttle Run:**In for the construction of norms for shuttle run test 50 subjects were poor, 70 subjects were fair, 60 subjects were average , 110 subjects were good, 140 subjects were very good and 70 were excellent.

**50 Yard Dash :**In the construction of norms for 50 yard run test 90 subjects were poor, 120 subjects were fair, 160 subjects were average 85 subjects were good, 55 subjects were very good and no subjects were excellent.

**600 Yard Run / Walk :**In the construction of norms for 600 yard run / walk test 55 subjects were poor, 60 Subjects Fair, 85 Subjects Average, 100 subjects Good, 105 Subjects Very Good and 95 subjects were excellent.

### **Recommendations**

One the basis of the findings and conclusions of the investigation, the following recommendations were drawn.The norms constructed by the research scholar may be used to select the students at the time of admission.A similar study may be conducted to construct norms for the higher secondary school girls.Research study on this problem may be under taken for different age group of boys.A similar study may be conducted to construct national norms for boys and girls.

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## Effect of Strength Training on the Performance of Long Jumpers of Osmania University

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### Abstract

Strength training is a type of physical exercise specializing in the use of resistance to induce muscular contraction which builds the strength, anaerobic endurance, and size of skeletal muscles. The purpose of the study is to determine the effect of Strength Training on long jumping performance. The sample for the present study consists of 20 Male Long Jumpers out of which 10 are experimental group of Long Jumpers and 10 are controlled group of long Jumpers of Osmania University between the age group of 19-21 Years. Strength Training were given to Long Jumpers Experimental group such as Push ups, Pull ups, Bicep curl, Tricep curls, Bench Press, Half Squats, Squat Jump for six weeks along with general training of Long Jump and Long Jumpers Control group were given the general training of Long Jump. Pre Test and Post Test were conducted for Long Jump Test for the Long jumpers by the qualified Technical Officials of Athletics. This Study shows that the experimental group of Long Jumpers has got rapid improvement due to strength Training in the Long Jump Performance compare to the controlled group of long jumpers. It is concluded that due Strength Training there is improvement in Long Jump Performance. It is recommended that the coaches must include the strength training for long jumpers .

Key words: strength training, Long jumpers, squat jumps etc

### Introduction:

Strength training is a type of physical exercise specializing in the use of resistance to induce muscular contraction which builds the strength, anaerobic endurance, and size of skeletal muscles. The purpose of the study is to determine the effect of Strength Training on long jumping performance. The fundamental reason to train with plyometrics is to reduce the ground contact time that an athlete spends when running or jumping. This time is reduced as the athlete matures, gets stronger, and practices the skills of their game. To further enhance resistance training the athlete spends considerable time practicing the specific movement skills they wish to improve; namely, running and jumping. Eccentric Strength development is so important for Long Jumpers. Development of that Explosive and reactive strength is very important for the development of performance in long jump

### Significance of the Study:

This study would help the coaches to use the strength training exercises for increasing the performance in long Jump. Athletes would also get the knowledge about the effectiveness of Strength training on athletic performance.

## Methodology:

The sample for the present study consists of 20 Male Long Jumpers out of which 10 are experimental group of Long Jumpers and 10 are controlled group of long Jumpers of Osmania University between the age group of 19-21 Years. Strength Training were given to Long Jumpers Experimental group such as Push ups, Pull ups, Bicep curl, Tricep curls, Bench Press, Half Squats, Squat Jump for six weeks along with general training of Long Jump and Long Jumpers Control group were given the general training of Long Jump. Pre Test and Post Test were conducted for Long Jump Test for the Long jumpers by the qualified Technical Officials of Athletics.

## Long Jump Test:

The long jump is a power event that comprises of the following four phases:  
Approach run up, Take off, Flight through the air and Landing

To achieve maximum distance in the long jump the athlete will have to balance three components - speed, technique and strength.

## Results

**Table I: Showing the Mean values and Independent Samples Test of Long Jump between experimental and control groups of Long Jumpers**

Variables	Group	Pre Test Mean $\pm$ SD	Post Test Mean $\pm$ SD	t	P - Value
Long Jump	Experimental	5.72 $\pm$ 0.222	6.03 $\pm$ 0.198	6.72	0.000
	Control	5.67 $\pm$ 0.215	5.64 $\pm$ 0.211		

\*Significant at 0.05 level

The Mean Values of Experimental Group Long Jumpers is 5.72 in Pre Test and Post Test is 6.03 in Long Jump Test. There is a improvement of Experimental group Long Jumpers Mean from 5.73 to 6.03 due to the due to the Plyometric Training. The Mean Values of Control Group Long Jumpers is 5.67 in Pre Test and Post Test is 5.64 in Long Jump Test. There is a decrease in the performance of control group Long Jumpers Mean from 5.67 to 5.64 due to the due to the general Training. Hence it is concluded that the Long Jumpers has increased in Long Jump Performance due to the strength training.

## Conclusion

The result of this study warrants the following conclusions:

Long jump performance was significantly improved through strength training.

Strength training contributed better in long jumpers .

## Recommendation

Based on the result and conclusion, this study recommends the followings:

1. Long jumpers can take advantage from strength training to exhibit better performance in long jump event.
2. Further research can undertaken with modification in the training intervention so that strength training could be of immense use for improving jumping ability needed for high jumpers, triple jumpers etc.

Strength exercises are extensively used nowadays to enhance performance in different sports. In fact, it is known that since running long jump and sprints are mostly influenced by heredity, role of added training intervention may not be so effective. This study contributes an idea that strength training helps to improve performance in running long jump, which are hereditary in nature. Moreover, plyometric training has additionally helpful for the long jumpers. Thus, this study contributed a supportive idea that environment can modify hereditary traits in enhancing sports performance.

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## Basis of performance of school boys:

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### **Abstract**

Sports Training is useful in preparatory sportsperson to various levels of sports activities. It will be useful in preparatory a sports person by increasing the load levels so as to face the real challenge. Here in sports training periodisation load are very important factors accordingly to the availability of time periodisation will planned. Short term, longterm periodisation will be seen in preparing a sports person. In sports training specific exercises are seen in various games and sports they will vary according to the game & period of long living. If the game (or) sports starts in short time more concentration on fitness & conditioning. Whereas it is in longtime we need long term periodisation. According to the above methods the sports person will be ready to face the challenge.

### **Introduction**

Sports Training is the basic form of preparation of sportsmen. Sports training is a pedagogical process, based on scientific principles, aiming at preparing sportsmen for higher performances in sports competition. Sports Training is done for improving sports performance. The sports performance is not the product of one single system or aspect of human personality. The total personality of a sportsman has to be improved in order to improve his performance. Complete Sports is becoming a highly technical job. A lot of research is being done by the western countries on the scientific basis of performance in sports. As a result of more research new techniques are being adopted for training high level sportsmen. The efficiency of athletes can be boosted up through proper training and conditioning. The condition of training has different aspects including the varied physical and physiological factors.

### **Sports Training:**

Sports training are planned and controlled process in which, for achieving a goal, change in complex sports motor performance ability to act and behaviors are made through measures of content, methods and organization. Sports training is a pedagogical process based on scientific principles, aiming at preparing sportsmen for higher performances in sports competitions.

#### **Aims of Physical Training:**

Physical training aims at improving the performance of sports persons. The Sports performance depends on several factors.

The constitution or physique is almost completely genetically determined and hence cannot be improved by training. But the other four groups of factors which are physically fitness or condition, technical skill, tactical efficiency and education are trainable to a greater or lesser extent.

#### **The factors of Load are:**

Physical exercise, Movement quality, Load intensity, Load volume.

#### **Load Volume:**

The volume of Load is the total amount of work done through an exercise or in a training session. For improvement of maximum strength a certain minimum duration of muscle contraction with maximal intensity is indispensable. For improvement of basic endurance the Load phase must be more than 30 minutes in duration. For improvement of different performance factors, different Load volume with and optimum Load intensity is required.

Load volume can be further divided into movement duration and movement frequency. For example in interval and repetition method, the movement duration is the duration of a single repetition or movement. Optimum volume of load in single training session is often not enough to start the adaptation process. A certain optimum quantity of load volume achieved over a number of training sessions is required to start the process of adaptation which will result in increases of performance capacity.

#### **Types of Training:**

The Training methods which have been used by the athletes for higher performance are interval training, fartlek training, circuit training, weight training, plyometrics training, continuous method, variable pace method, technique training, speed training, Resistance training etcetera.

#### **Effects Of Training On Physiological Variables**

The physiological variables which were selected for this study are resting pulse rate, anaerobic power and cardio respiratory endurance. The pulse rate is one of the important parameter that belongs to the circulatory system of the body. The reading of pulse per minute will indicate the functioning of the circulatory system of the body. Twelve minutes run and walk parameter is directly connected with the pulmonary and circulatory system of the body. The distance covered by a sportsman within 12 minutes is directly proportional to the efficiency of pulmonary and circulatory systems of the body. The anaerobic power is directly connected with explosive strength endurance, particularly for the runners, anaerobic power is the power generated by the legs when moving the body.

#### **Training and Cardio respiratory Endurance:**

Cardio respiratory endurance is considered to be the ability of the circulatory system to supply oxygen to the cells to sustain the oxidative energy demands of the body and to remove the waste materials of the metabolism.

#### **Effects of Training on Motor Ability Components:**

The physical fitness or condition is the sum total of five motor abilities namely strength, speed, endurance, flexibility and coordinative abilities. These five motor abilities and their complex forms are the basic pre requisites for human motor action.

#### **Periodisation:**

The process of preparing the sportsmen to give his best performance in a particular competition is called periodisation. The term periodisation simply means dividing the training process into periods of time with different training emphases, goals, and lengths.

#### **Types of Periodisation**

Periodisation is classified into single or multiple periodisation according to the number of macro-cycles in a training year. When there is only one macro-cycle in one year it is called single periodisation. In case there is more than one macro-cycle in a training year, it is called multiple periodisation.

#### **Package of Physical Training:**

Package of physical training is a method of physical conditioning that consist of various training methods like Extensive interval run, intensive interval run, weight training, fartlek training, repetition method, technique training, plyometric training, circuit training, slope or hill running etcetera, it provides a means of achieving optional fitness in a systematized controlled fashion.

#### **Criteria For Selecting A Package Of Physical Training**

Three types of packages of physical trainings were designed for preparatory period and remaining three types of packages were designed for competitive period.

#### **Reference Books:**

Science of Sports Training (Author: Hardayal Singh)  
Physical Education foundation (Author: Robert N.Singer)  
A Direct competition preparation for Elite Sprinters (Author: Adam Zajac).

## Study of leadership behaviours among Players volleyball teams in the colleges of Physical Education and Sports Science in Iraqi universities

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### Introduction and significance:

The continuing global sporting achievements and achieved by did not come from a coincidence, it came as a result benefit from the assist sciences in sports training, a science that works to raise the level of achievement. The significance of this research to recognize the leadership of coaches of volleyball behavior, as the behavior of coaches with their players is one of the things important and influential to the success of the players with their teams, the fact that the coach is the true interpreter of sports Sciences and information of interest the game that are working on, and the arrival of this information depends on the type behavior being followed by the coach and that is reflected positively or negatively on the future of the game in the (Iraqi universities).

Find a problem

The coach in a game of volleyball foundation stone for the achievement of sporting achievement, There is no doubt that access to qualified coaches in that field is not an easy process, as some imagine to privacy and the effectiveness of this role. Through researcher experience as a former player and coach and teaching noted that the problem of research, of a discrepancy in the leadership behavior of coaches of volleyball and therefore the concrete impact will be reflected on the players and even the results, so the work of a researcher to study this problem and to find appropriate solutions to improve the quality of the game.

### Objectives:

To identify the leadership behavior among volleyball players

Limitation and delimitation: The research sample consisted from players for teams of Iraqi universities the Central Region (Diyala, Kufa, Baghdad, Karbala, Babil), for the period from 04/04/2015 until 04/06/2015, in the halls (Specialized school volleyball). Research is not interested in dietary habits followed by the player in his life.

### Research Methodology

Curriculum is the way "followed by the researcher in the study of the problem to discover the truth," For this, the researcher used the descriptive method (survey research method) for the suitability and the nature of research.

### Research sample:

"It is important in scientific research on the researcher observance is to get a representative sample of the original community a real honest representation" has been selected sample are intentionally and are players from teams of universities in the northern region in volleyball, represented: (Diyala -pabl - Kufa - Karbala - Baghdad) for the academic year 2014/2015 totaling (60) player.

### Data collection

- Arab sources and references.- Personal interviews.- Questionnaire.- Statistical methods

### Research tools:

"Leadership trainer behavior scale", he organized this measure to determine the leadership of coach sports activities and collective behavior, has been achieved the veracity of the scale by using the content sincerity, as well as make sure stability by re-testing and coefficient of alpha.

**Description The scale:**The scale consists of 55 sentence, working to measure the eight subset dimensions of this scale, measure the leadership of coach sports in team sports behavior, and there are 5 levels to answer in front of each sentence is (always often sometimes rarely and never) and the player put a circle in the field that he sees appropriate to answer that is compatible with the coach's behavior and (55) sentence.

(7) Sentences them negative answer, which represents the fourth dimension.

(48) Sentence all remaining positive.

After being collected degrees obtained for each dimension separately, the higher the degree distinguish the characteristics of the coach that dimension

### **Exploratory experiment**

The researcher recognizes the clarity scale and suitability instructions to the players in terms of formulation and meaning in addition to the identification of the negatives and the obstacles facing the process of applying the tests and overcome them for the safety of the basic procedures for research, the researcher distributed measurement questionnaire on a sample of the players Diyala University and numbered (6) players, It is found that scale and clearly instructions, as well as the absence of negatives.

Scientific conditions of scale

Sincerity of scale

Measurement sincere, which measures accurately enough phenomenon's that is designed to measure does not measure something else,

The researcher achieved the sincerity scale by finding the virtual sincerity, through the displayed on a group of experts in the field, and after seeing the results of the expert answers show that there is an agreement by (100%) on all of its paragraphs.

Stability of scale

The researcher used the method of re-testing to extract the Stability of scale, the scale was applied to a sample of the players Diyala University in volleyball and numbered (6) players on 3/15/2015, and was re-scale on them again after a week the date of 03.22.2015, the correlation coefficient between the two applications in a manner (Pierson) reached the correlation coefficient (76.0), a high correlation.

Scale Degrees calculate:

They are given a Degrees scale as follows

Sentences in the direction of dimension

Always = 5 degrees

Often = 4 degrees Sometimes = 3 degrees Rarely = 2 Degrees Never = 1 degree

Reversing dimension sentences correction is as follows

Always = 1 degree, Often = 2 Degrees, Sometimes = 3 degrees, Rarely = 4 degrees Never = 5 degrees

Note: The total degree of measurement equal to the 275 degrees

Statistical methods

The researcher used the percentage only

Display the results of the first dimension (training and mentoring) and analyzed and discussed.

Clear to us through the sample answers to Sentences first dimension (training and mentoring), which consists of (sentence 18) all of which in the positive direction. The total degrees of this dimension are the (5400) degree has obtained a sample search through their answers on the (4312) degrees and by (78.70%). Through Table (1) shown that the proportion of the sample answers in this dimension are (78.70%), a high percentage, Coach in their view, such as explain to them in detail how to implement the plans to play as well as training them in practice cares It also has the ability to detect weaknesses in the opposing team as it contributes to correct performance that appear on them in the course of the game and other things errors.

**Table (1)**

**Shows the results of the research sample for the first dimension of sentence Answers (training and mentoring)**

s	N o. se nt en ce	Always			Often			Sometimes			rarely			never		
		M. Deg rees	Repe tition	perce ntage												
1	3	210	42	70%	40	10	16.67	21	7	11.67	2	1	1.67	0	0	0
2	7	160	32	53.33	72	18	30	27	9	15	2	1	1.67	0	0	0
3	12	85	17	28.33	84	21	35	60	20	33.33	2	1	1.67	1	1	1.67
4	16	150	30	50	72	18	30	30	10	16.67	2	1	1.67	2	1	1.67
5	17	80	16	26.67	10	27	45	45	15	25	2	1	1.67	1	1	1.67
6	21	125	25	41.67	76	18	30	30	10	16.67	8	4	6.67	2	2	3.23
7	25	70	14	23.33	80	20	33.33	48	16	26.67	16	8	13.33	2	2	3.23
8	28	115	23	38.33	80	20	33.33	39	13	21.67	8	4	6.67	0	0	0
9	30	120	24	40	64	16	26.67	54	18	30	4	2	3.33	0	0	0
10	32	145	29	48.33	84	21	35	21	7	11.67	4	2	3.33	2	1	1.67
11	35	115	23	38.33	92	23	38.33	36	12	20	4	2	3.33	2	2	3.33
12	38	110	22	36.67	92	23	38.33	36	12	20	2	1	1.67	2	2	3.33
13	43	160	32	53.33	64	16	26.67	27	9	15	6	3	5	0	0	0
14	45	160	32	53.33	52	13	21.67	36	12	20	4	2	3.33	1	1	1.67
15	49	145	29	48.33	72	18	30	33	11	18.33	8	4	6.67	0	0	0
16	50	155	31	51.67	56	14	23.33	36	12	20	6	3	5	0	0	0
17	52	105	21	35	92	23	38.33	39	13	21.67	4	2	3.33	1	1	1.67
18	55	90	18	30	92	23	38.33	42	14	23.33	6	3	5	2	2	3.33

**Total dimension of overall degrees = 5400 \ total sample degrees in the distance = 4312 \ ratio = 78.70%**

**Analyzing and discussing the results of the second dimension (social report)**

Clear from Table 2 that the sample research on terms of this dimension, which consists of (9-phrases) answers, this sample obtained through their answers on a sentences on this dimension (2189- degrees), note that the total degrees of this dimension is equal to (2700 - degrees) and by (07, 81%), this ratio is very high which indicates that the sample members gave their opinions on coach outside the exercise times, Coach careful to be the relationship (between him and the players) are good outside the stadium, as well as he treats with them like big brother to them as he careful to continuing his relationship with players until after the completion of the training season, as well as it tends to be frank with them.

**Table (2)Shows the results of the second dimension (social report)**

s	No. sentence	Always			Often			Sometimes			rarely			never		
		M. Degrees	Repetition	percentage												
1	2	210	42	70	56	14	23.33	9	3	5	2	1	1.67	0	0	0
2	8	180	36	60	44	11	18.33	24	8	13.33	6	3	5	2	2	3.33
3	14	115	23	38.33	80	20	33.33	33	11	18.33	8	4	6.67	2	2	3.33
4	24	100	20	33.33	100	25	41.67	27	9	15	8	4	6.67	2	2	3.33
5	39	155	31	51.67	68	17	28.33	27	9	15	2	1	1.67	2	2	3.33
6	44	140	28	46.67	76	19	31.67	33	11	18.33	2	1	1.67	1	1	1.67
7	46	35	7	11.67	24	16	26.67	21	7	11.67	10	5	8.33	0	0	0
8	48	160	32	53.33	64	16	26.67	21	7	11.67	10	5	8.33	0	0	0
9	54	190	38	63.33	28	7	11.67	30	10	16.67	10	5	8.33	0	0	0

**Total dimension of overall degrees = 2700 \ total sample degrees in the distance = 2189 \ 07 ratio = 0.81%**

Analyzing the results of the third dimension (stimulus).

Clear from the table (3) that the research sample has been obtained (1554- degrees) on this dimension phrases which consists of (7) phrases, note that the total degrees of this dimension is equal (2400- degrees) and the ratio (75.64%). These medium ratio shows that the coach may not give stimulus great interest, although he is a fundamental pillar of the player as it passes at times condition idle or contraction in the stadium, and this demonstrates that the most of the coaches do not give the psychological aspect of the player much attention, and this will surely affect the player and his performance on the field level, the result is a decrease in the level of performance.

**Table (3):Shows the results of sample research on the third dimension (stimulus)**

s	No. sentence	Always			Often			Sometimes			rarely			never		
		M. Degrees	Repetition	percentage												
1	4	65	13	21.67	100	25	41.67	42	14	23.33	6	3	5	5	5	8.33
2	11	105	21	35	88	22	36.67	36	12	20	6	3	5	2	2	3.33
3	22	140	28	46.67	48	12	20	30	10	16.67	12	6	10	4	4	6.67
4	33	65	13	21.67	88	22	36.67	60	20	33.33	4	2	3.33	3	3	5
5	40	100	20	33.33	80	20	33.33	42	14	23.33	6	3	5	3	3	5
6	47	105	21	35	84	21	35	33	11	18.33	12	6	10	1	1	1.67
7	53	50	10	16.67	60	15	25	30	10	16.67	28	14	23.33	11	11	18.33

**Total dimension of overall degrees = 2400 \ total sample degrees in the distance = 1554 \ ratio = 75.64%**

**analyzing the results of the fourth dimension (justice).** Clear from table (4) a sample research on fourth dimension phrases Answers (justice), which consists of (6) phrases. These respondents have obtained (1090 - degrees) of a total degrees dimension amount (1800 - degrees) and percentage (56.60%), in this dimension and that the player is believed that the coach must achieve justice between one team member in the attention and care, (note that the medium-ratio) in the selection of players for this answer, and this percentage raise questions among supervisors on the team and the coaches work through equal attention to the players, The player who loses a sense of justice loses the desire to play, and this indicates that the players have a (high cultural level) to see the type of justice that must be available to the coach.

**Table (4):Showing a sample research on results sentences fourth dimension (justice)**

s	No. sentence	Always			Often			Sometimes			rarely			never		
		M. Degrees	Repetition	percentage												
1	5	25	5	8.33	68	17	28.33	72	24	40	20	10	16.67	4	4	6.67
2	9	60	12	20	72	18	30	30	10	16.67	30	15	25	5	5	8.33
3	18	65	13	21.67	52	13	21.67	75	25	41.67	8	4	6.67	5	5	8.33
4	26	25	5	8.33	28	7	11.67	54	18	30	32	16	26.67	14	14	23.33
5	42	40	8	13.33	60	15	25	69	23	38.33	14	7	11.67	7	7	11.67
6	51	20	4	6.67	52	13	21.67	45	15	25	22	11	18.33	17	17	28.33

Total dimension of overall degrees = 1800 \ total sample degrees in the distance = 1090 \ ratio =56.60%**analyzing the results of the Fifth Dimension (Sports Performance):** Clear from table (5) illustrated sample search on the fifth dimension phrases Answers (Sports Performance), which consists of (4) phrases. The research sample have obtained (1012 - degrees) of a total degrees Dimension (1200-degrees) and the ratio (33.84%). Note: in this dimension that the ratio is too high, this indicates that the sample of the research have every confidence through the expertise of the coach and its impact on the players and the results of the team, and this (sports, cultural and higher ethical) that they follow because of the evaluating their coach level. This will certainly contribute to the development of their sports and enhance confidence among them

**Table (5)Shows the results of the research sample to the fifth dimension sentences Answers (Sports Performance)**

s	No. sentence	Always			Often			Sometimes			rarely			never		
		M. Degrees	Repetition	percentage												
1	6	160	32	53.33	64	16	26.67	24	8	13.33	8	4	6.67	0	0	0
2	10	195	39	65	60	15	25	12	4	6.67	4	2	3.33	0	0	0
3	15	180	36	60	64	16	27.67	9	3	5	6	3	5	2	2	3.33
4	27	110	22	36.67	48	12	20	45	15	25	20	10	16.67	1	1	1.67

Total dimension of overall degrees = 1200 \ total sample degrees in the distance = 1012 \ ratio = 33.84%

**analysis and the results of the sixth dimension (authoritarian behavior)** Clear from table (6) a sample research on sixth dimension phrases Answers (authoritarian behavior), which consists of (4) phrases. That members of the research sample have obtained (653. degree) of the total degrees Dimension (1200 - degrees) and the ratio (42.54%), Where the examine the research sample answers this ratio is clear to us that the coaches have tendency towards authoritarianism more than of openness, and execute commands in this way (Prince) means that the level of coaches do not match with the sports and cultural level players because they are university students and have some independence in thinking and decision-making, and this shows that the coach does not involve the players in the training unit, not even choose the squad for the match.

**Table (6) Shows the results of the research sample the sixth dimension sentences Answers (authoritarian behavior)**

s	No. sentence	Always			Often			Sometimes			rarely			never		
		M. Degrees	Repetition	percentage												
1	13	30	6	10	48	12	20	48	16	67.26	36	18	30	8	8	33.13
2	23	30	6	10	24	6	10	63	21	35	40	20	33.33	7	7	11.67
3	34	40	8	33.13	32	8	33.13	30	10	67.16	18	19	15	25	25	67.41
4	41	45	9	15	44	11	33.18	51	17	33.28	22	11	33.18	12	12	20

Total dimension of overall degrees = 1200 \ total sample degrees in dimension = 653 \ ratio = 42.54%

**analysis and the results of the seventh dimension (participation and democratic behavior)** Shown in Table (7) a sample search on the seventh dimension phrases Answers (participation and democratic behavior), which consists of (3) phrases. The research sample obtained the (695 - degree) of the total score (900 - degree) and the ratio (22.77%). When we note the high ratio in this dimension see that the players may relieve their manager on their behavior sports with him, both in training and match units or even outside the sports field, it indicates that the relationship between them and their coach is an independent thinking and diligence are good. This is consistent with the university place and the level of culture among the players (students) and their adaptation to their coach and this certainly will have a positive return on their levels of sports

**Table (7) Shows the results of the research sample the seventh dimension phrases Answers (participation and democratic behavior)**

s	No. sentence	Always			Often			Sometimes			rarely			never		
		M. Degrees	Repetition	percentage												
1	3	200	40	67.66	44	11	33.18	24	8	33.13	2	1	67.1	0	0	0
2	29	80	16	67.26	72	18	30	45	15	25	16	18	30	3	3	5
3	37	45	9	15%	88	22	67.36	60	20	33.33	14	7	67.11	2	2	33.3

Total dimension of overall degrees = 900 \ total sample degrees in dimension = 695 \ ratio = 22.77%

analyzing the results of the Eighth Dimension (attention to health aspects)

It is seen from the table (8) a sample research on eighth dimension phrases Answers (attention to health aspects), which consists of (3) phrases. The research sample had obtained (776 - degree) of the total degrees dimension (900) and the ratio (22.86%).

In this dimension research sample confirms that the interest in their coach High-health aspects because of to the high ratio the answers, and I think that this fits with sports and cultural level of the university professor (coach) because he knows that player safety is important in the training of units and even in the game, and this is reflected positively on player level (student) sports and his performance in the game.

**Table (8):Shows the results of the research sample the eighth dimension phrases Answers (attention to health aspects)**

s	No. sent ence	Always			Often			Sometimes			rarely			never		
		M. Deg rees	Repe tition	perce ntage	M. Deg rees	Repe tition	perce ntage	M. Deg rees	Repe tition	perce ntage	M. Deg rees	Repe tition	perce ntage	M. Deg rees	Repe tition	perce ntage
1	1	165	33	55	52	13	67·21	39	13	67·21	2	1	67·1	0	0	0
2	19	150	30	50	76	19	67·31	24	8	33·13	6	3	5	0	0	0
3	31	195	39	65	40	10	67·1	21	7	67·11	4	2	33·3	2	2	33·3

Total dimension of overall degrees = 900 \ total sample degrees in dimension \ = 776 \ ratio = 22.86%

### Conclusions

By showcasing the results became clear that (induction training) receives the level of interest among coaches quite a bit. By showcasing the results became clear that (social recognition) was not lost on coaches of the importance of the social level for university students. Stimulus was the low level of mental trainers and not paying attention to it. Researcher concluded that the principle of justice has not been achieved clearly the coaches of the viewpoint of their athletes. After the performance sports won the second greater percentage, and this demonstrates the attention of coaches in this aspect. The authoritarian behavior, the coaches did not deal with it as much as possible to law is totally inadequate with the university community level. Democratic behavior got the attention of coaches in dealing with the players. Attention to health aspects got the largest percentage of any opinions of the players to coach his main concern for the health of his players more than anything else.

### Recommendations

Researcher recommends worthwhile stimulation and justice because they are very important in the life of the players training and social. Researcher recommends staying away from the authoritarian behavior and a tendency to participation of players in the module construction. Researcher recommends a democratic behavior with the players inside and outside and during the training module.

## A Comparative Study of Speed among Net Ball Players and Korf Ball Players of Hyderabad District in Telangana

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### Abstract

The purpose of the study is to find out the speed among Net Ball and Korf Ball Players. The sample for the present study consists of 15 Male Net Ball Players and 15 Korf ball Players of Hyderabad District. 30 M Run Test is used to assess the Speed among both the Players. Net ball players is having the good speed compare to Korf ball Players. This study is useful to assess the motor qualities in Korf Ball Game and Net Ball Games.

Key words: speed, Korf ball, net ball etc

### Introduction:

Korfball (Dutch *Korfbal*) is a mixed gender team sport, with similarities to netball and basketball. A team consists of eight players; four female and four male. A team also includes a coach. It was founded in the Netherlands in 1902 by Nico Broekhuysen. In the Netherlands there are around 580 clubs, and over 100,000 people playing korfball. The sport is also very popular in Belgium and Taiwan and is played in 54 other countries. The game consists of Two Half of 30 minutes each, with an interval of 5 minutes between the first and second half. After every two Goals the team has to change the courts.

Netball is one of many sports that developed its unique form and structure from another, transplanted sport—in this case, from the United States to Great Britain—and then, as a result of that move, evolving into a significantly different sport. Netball was introduced to England in 1895 as the indoor game of basketball, which it greatly resembles, although a staccato game and a sport of stop, start, catch, and shoot compared to the all-action fluidity of basketball. Netball is an international sport, played by two teams of seven players and based on throwing and catching. Traditionally it is played by women but mixed and men's netball is becoming increasingly popular. The game consists of four quarters of 15 minutes each, with an interval of 3 minutes between the first/second and third/fourth quarters and an interval of 5 minutes at half time. Teams change end each quarter.

### Method:

To find out the Speed between Male Net Ball and Male Korf Ball Players. The sample for present study consists of 15 Male Net Ball Players and 15 Male Korf Ball Players of Hyderabad District in Telangana State. 30 Meters Dash test is determine the Speed.

#### 30 Meter Dash

Sprint or speed tests can be performed over varying distances, depending on the factors being tested and the relevance to the sport.

**purpose:** The aim of this test is to determine acceleration and speed.

**equipment required:** measuring tape or marked track, stopwatch or timing gates, cone markers, flat and clear surface of at least 50 meters.

**procedure:** The test involves running a single maximum sprint over 30 meters, with the time recorded. A thorough warm up should be given, including some practice starts and accelerations. Start from a stationary position, with one foot in front of the other. The front foot must be on or behind the starting line. This starting position should be held for 2 seconds prior to starting, and no rocking movements are allowed. The tester should provide hints for maximizing speed (such as keeping low, driving hard with the arms and legs) and encouraged to continue running hard through the finish line.

**results:** Two trials are allowed, and the best time is recorded to the nearest 2 decimal places. The timing starts from the first movement (if using a stopwatch) or when the timing system is triggered, and finishes when the chest crosses the finish line and/or the finishing timing gate is triggered.

**Results and Discussion**

Table I:

Showing the Mean Values, SD, df, 't' value and p-value of Korf Ball Players and Net Ball Players in 30 mts run.

Sl. No.	Subjects	N	Mean	SD	df.	't' value	p-value
1.	Korf Ball Players	15	4.700	0.4660	28	2.693	0.012
2.	Net Ball Players	15	4.500	0.5085			

The Mean Values of Net Ball Players is 4.500 compare to Korf Ball Players mean is 4.700. Hence the Speed Mean of Net Ball Players is better compare to Korf ball Players.

**Conclusions:**

Netball is sort of like playing basketball, but there is no dribbling and once a player has the ball, they are not allowed to take more than a single step. Speed is essential because it helps players to get open, get the ball and make the shot. Players are also not allowed to hold the ball for longer than three seconds, so speed and optimal reaction time are critical. Korfball players also require high level of fitness and Speed.

In this Study the Net ball Players are having good speed.

**Recommendations:**

This is study is useful for Coaches to know the motor qualities of Korf Ball Players and Net Ball Players.

**References:**

<http://www.livestrong.com/article/284206-netball-speed-training>

wikipaedia, Korf ball and Net ball

## Effect Of Selected Yogic Exercises On Flexibility, Explosive Power And Balance Of Secondary School Boys

D.P. Shivakumar \*

### Introduction :

Yoga is one such most enjoyable activity everyone can participate. Yoga the art and science of maintaining physical and mental wellbeing that has its origin in India. The practices of asana bring purity in tabular channels firmness to the body and vitality to the body and the mind. (Sharma, 1984). Yoga has a universal appeal and proposition it can be practiced by every human being irrespective of age and sex, which provides total fitness for every individual. Yoga is one which is concerned with physical and mental well being (Sundar Raj Urs, 2001). Physical fitness is the ability to perform vigorous physical activity. It is not measured in terms of achieving specific motor skills, but rather it is assessed in terms of muscle strength, endurance, and flexibility. The circulatory and respiratory systems are also involved because of their role in supplying muscles with blood and oxygen. Exercises are very helpful to maintain the sound body. Regular practices of asana maintain the physical body in an optimum condition and promote health. Yoga exercises and postures help in stretching and relaxing the muscles and skeletal system thus helps in improving flexibility. There are many research evidences to prove the effect of yoga in improving the health related fitness. Yoga asana boost physical strength, stamina and flexibility, enhance posture and muscle tone and bestow greater powers of concentration and self-control. Balance is also an important aspect of efficient motor response and is one of the basic fitness factors. Good balance is necessary to perform activities of daily living such as rising from a chair or transcending a flight of stairs. It is fundamental to a physically active lifestyle and crucial in sustaining independence in the elderly. Strength is defined as the "capacity of the individual to exert maximum muscular force. This force is revealed by the individual ability to pull push lift, or to hold the body in a hanging position. (Hardayal Singh, 1972). Flexibility is a component of physical fitness developing and major of a fitness program. Flexibility refers to the range of movement of a joint.

### Statement Of The Problem:

The purpose of the present investigation is to find out the effect of selected yogic exercises on flexibility, explosive strength and balance among secondary school children.

### Objective Of The Study:

To find out the significant difference in Flexibility, Explosive Strength and Balance of the subjects by practicing yoga among experimental group.

### Hypotheses

It was hypothesized that there would be a significant difference in Flexibility of the subjects by practicing yoga among experimental group.

It was hypothesized that there would be a significant difference in Explosive Strength of the subjects by practicing yogic exercises among experimental group.

It was hypothesized that there would be a significant difference in Balance of the subjects by practicing yogic exercises among experimental group.

### Review of related literature

Shoba (2011)<sup>1</sup> conducted "a study on the effect of yoga and as on motor, physiological and psychological variables". (N=100, 50 Boys and 50girls). She found significant improvement in all the motor variables, physiological and psychological variables selected for the study after six weeks of yoga training.

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Deepla (2008)<sup>2</sup> conducted a study on developing motor abilities of high school students through yoga. The subjects (N=25) were given 12 weeks of Yoga training. After the training he found significant improvement in cardiovascular endurance, flexibility, freedom from obesity, balance and reaction time. Bera et al. (1999)<sup>3</sup> conducted a study on "Effect of Three-Year Yogic Training Programme on Motor Function in School Boys" The investigators recorded the long term effect of three different courses, as developed by Swami Kuvalayanandaji, on the attributes of health related fitness of school boys. The subjects (N=52, aged 10-13 yrs.) were the host élites of Gurukul High School, Lonavla who participated in the selected Yoga schedule in 3 days a week with 45 minutes a day for consecutively 3 years. Multivariate analysis of variance (MANOVA) with repeated measures statistics was used for data analysis. The comparison of experimental group (n = 27) with control group (n = 25) revealed that two variables, viz., flexibility and body balance were improved significantly (p<0.1), while third variable, i.e., body fat % was reduced in the 1st and 2nd year. The result from year second to third showed significant improvement in C-V endurance (p<0.05) and static balance (p<0.01). No significant improvement was evident in grip strength.

Gitananda and Bhavani (1989)<sup>4</sup> opines that Suryanamaskar when done properly serve the excellent purpose of providing one of the best systematic scientific stretches possible for the human body. These carefully structured movements balance backward bending with forward bending, stretching upward with stretching down. it increases flexibility of the body, tone up the organs, reduce laziness and fatigue and energize the whole organ sm. Deep breathing while moving adds to the beneficial effect. All in all Suryanamaskar forms one of the most perfect exercises known to man.

**Methodology:**

To achieve the purpose of the study 60 secondary school boys were selected from Government High School, Thondoti, Madhugiri Taluk, Tumkur District, Karnataka state as subjects. Their age ranged from 13 to 17 years. For the present study Randomized Groups Pre-test and Post test Design was used. They were divided into two equal groups of 30 subjects each and assigned to experimental group and control group. 12 weeks training given to the subjects practicing of simple yogic asana and suryanamaskar. All the subjects underwent two areas of test namely sit reach test was to measure flexibility of the subjects, standing broad jump test was to measure explosive power and stork balance stand test was to measure the balancing ability of the subjects before yogic practices and after yogic practices. The analysis of 't' test was used to analyze the data.

**Results And Discussions:**

After the six weeks of yogic exercises there would be significant improvement in selected physical fitness variables.

1. Flexibility :

The data on flexibility before and after the yogic training of experimental and control groups are analyzed and presented in Table-1.

Hypothesis-1: It was hypothesized that there would be a significant difference in Flexibility of the subjects by practicing yoga among experimental group.

Table-1: Significance of differences between pre test and post test scores of Flexibility among experimental and control groups (N=30 each group)

<i>Tests</i>	<i>Group</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>t' value</i>	<i>Level of Significance</i>
<i>Pre Test</i>	Control	7.400	4.159	0.12	NS
	Experimental	7.533	4.333		
<i>Post Test</i>	Control	7.520	3.159	2.99	*
	Experimental	10.520	4.500		

From the above table, it can be observed that the obtained 't' value 0.12 is less than Table value 2.00 at 0.05 level of significance in the pre test scores. Hence it was not significant on flexibility among control and experimental groups of pre test scores. It was assumed that the two groups started out with equivalent mean scores.

It can also observed from the above table that the obtained 't' value 2.99 is greater than Table value 2.00 at 0.05 level of significance in the post test scores. Hence the stated hypothesis is accepted that there was a significant effect of yogic exercises on flexibility among control and experimental groups.

Hence, the hypothesis is statistically proved and stated hypothesis accepted. The study confirms with the findings of Deepla (2008) who reported an improvement in flexibility along with some other variables due to yoga. According to Gitananda and Bhavani (1989), Suryanamaskar serves the purpose of providing one of the best systematic scientific stretches possible for the human body. These carefully structured movements balance backward bending with forward bending. It increases the flexibility of the body. The comparison of flexibility mean scores of pre and post tests among groups is shown in graphical representation in Fig.1

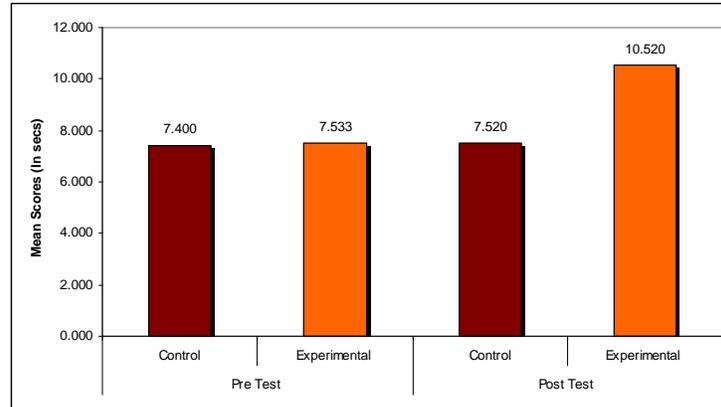


Fig.1. Bar graph showing comparison of flexibility pre and post test mean scores among experimental and control groups

## 2. Explosive Strength :

The data on explosive strength before and after the yogic training of experimental and control groups are analyzed and presented in Table-2. Hypothesis-2: It was hypothesized that there would be a significant difference in explosive strength of the subjects by practicing yoga among experimental group. Table-2: Significance of differences between pre test and post test scores of Explosive Strength among experimental and control groups (N=30 each group)

Tests	Group	Mean	Standard Deviation	't' value	Level of Significance
Pre Test	Control	154.233	12.483	1.86	NS
	Experimental	160.300	12.779		
Post Test	Control	158.700	14.357	3.64	*
	Experimental	174.333	18.620		

From the above table, it can be observed that the obtained 't' value 1.86 is less than Table value 2.00 at 0.05 level of significance in the pre test scores. Hence it was not significant on explosive strength among control and experimental groups of pre test scores. It was assumed that the two groups started out with equivalent mean scores. It can also be observed from the above table that the obtained 't' value 3.64 is greater than Table value 2.00 at 0.05 level of significance in the post test scores. Hence the stated hypothesis is accepted that there was a significant effect of yogic exercises on explosive strength among control and experimental groups. Hence, the hypothesis is statistically proved and stated hypothesis accepted. The study confirms with the findings of Shoba (2011) who found a significant improvement in explosive power of legs due to yoga training. The comparison of explosive strength mean scores of pre and post tests among groups is shown in graphical representation in Fig.2

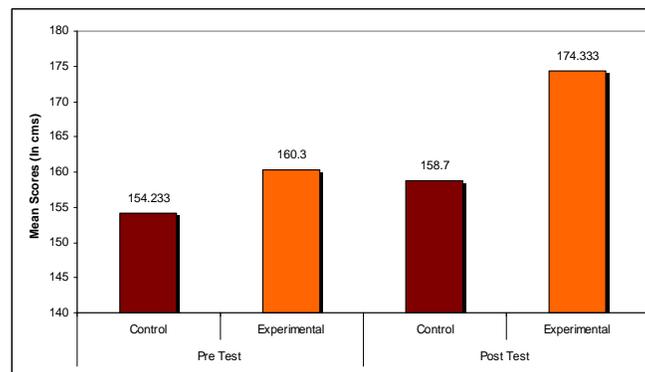


Fig.2. Bar graph showing comparison of flexibility pre and post test mean scores among experimental and control groups

3. Balance :

The data on balance before and after the yogic training of experimental and control groups are analyzed and presented in Table-2. Hypothesis-3: It was hypothesized that there would be a significant difference in balance of the subjects by practicing yoga among experimental group.

Table-3: Significance of differences between pre test and post test scores of balance among experimental and control groups (N=30 each group)

Tests	Group	Mean	Standard Deviation	t' value	Level of Significance
Pre Test	Control	10.200	3.577	1.87	NS
	Experimental	12.400	5.365		
Post Test	Control	11.100	3.555	5.90	*
	Experimental	16.200	3.120		

From the above table, it can be observed that the obtained 't' value 1.87 is less than Table value 2.00 at 0.05 level of significance in the pre test scores. Hence it was not significant on explosive strength among control and experimental groups of pre test scores. It was assumed that the two groups started out with equivalent mean scores.

It can also be observed from the above table that the obtained 't' value 5.90 is greater than Table value 2.00 at 0.05 level of significance in the post test scores. Hence the stated hypothesis is accepted that there was a significant effect of yogic exercises on balance among control and experimental groups. Hence, the hypothesis is statistically proved and stated hypothesis accepted. The study agrees with the findings of Bera et al (1999) who found a significant improvement after yoga training in flexibility, body balance and cardiovascular endurance. The comparison of explosive strength mean scores of pre and post tests among groups is shown in graphical representation in Fig.3.

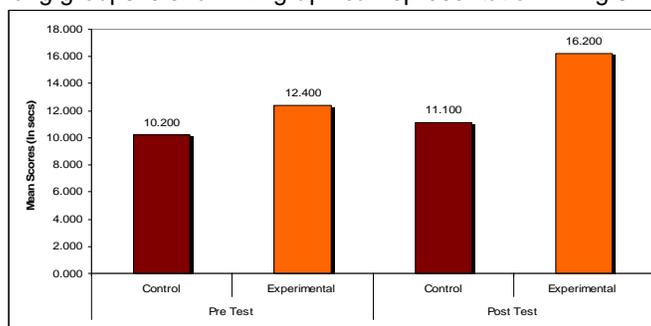


Fig.3: Bar graph showing comparison of balance pre and post test mean scores among experimental and control groups

**Conclusion**

There was a significant difference between control and experimental group on selected criterion variables namely Flexibility, Leg Explosive Strength and Balance. There was significant improvement were noticed on selected Physical Fitness variables namely Flexibility, Leg Explosive Strength and Balance due to six weeks practice of yogic exercises among secondary school children. The study revealed that the above said criterion variables were significantly improved due to the influence of asanas like ardha chakrasana, trikonasana, Paschimothasana, garudasana, tadasana and on selected physical fitness variables among secondary school children. The flexibility, balance and leg explosive power had increased significantly yogic practice group when compared along with the control group.

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## Comprative Study Of Agility, Reaction Time, Strength AndFlexibility Mearsures Of Volleyball And Basketball Male Players

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### Introduction

For all sport of activity physical fitness is very essential. It is related to the ability to meet the demands of the environment specially to preserve, to with stand stress to resist fatigue and to posses the energy for an abundant life physical condition is one's richest ownership, it cannot survive acquisitioned, along with it have to be earn from beginning to end every day schedule of physical work out. The same as strength is approved because the aptitude toward bring elsewhere each day behavior (employment or else participate) lacking redundant weariness along with sufficient power treasury meant for urgent situation. Physical strength is the competence of sensitivity, blood, vessels, lung and physique to occupation at best possible good organization physiological variables be the not anything excluding single to facilitate is accountable meant for strength In the skill training video by the 'cologne' (Germany) showed that how much stress is given on training of the goal-keeper to improve their agility and reaction time.

### Methodology

The following procedures including information regarding research design, source of data, sampling method, selection of subjects, criterion measures, selection of test, description of test and collection of data etc.

### Sample:-

The data pertaining to this study was collected by administrating the appropriate tests described below on the inter-collegiate players of Telangana state, who participated at least inter-collegiate tournaments held in MG. University and JNTUH University. 150 male Volleyball players and 150 male Basketball players, who had participated in inter college tournament be preferred as matters used for this learning. The period of the subject is range beginning eighty (18) years to twenty-five (25) years. The design of the study was random group design, as 150 male players from volleyball and 150 male players from Basketball of field ground. Were select randomly for the purpose of the study.

**Tools:-**The test was conducted for testing the following measures are below:

**a) Agility:** SEMO Agility Test. **b) Reaction Time:** Nelson Foot Reaction Test. **c) Strength:** Leg Strength (Vertical Jump). **d) Flexibility:** Trunk Flexibility (Modified Sit and Reach Test).

**ANALYSIS OF DATA:-**Statistical procedures constitute the means by which quantitative data – such as test scores from any individuals are organized, analyzed, and interpreted. Significant level is found out by the application of 't' test. The mean, SD, MD, SE- IND and 't' values were calculated to find out the significant of differences between male volleyball and male basketball players. Significant level is found out by the application of 't' test at 0.05 level.

**Table No 1: Comparison of agility between Volleyball and Basketball male players**

AGILITY									
Players	Number	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Volley Ball	150	13.57	1.04	0.0072	0.11	0.61	5.43*	1.96	0.05
Basketball	150	12.96	0.90	0.0054					

**Insignificant at 0.05 level with 298 degree of freedom tab t = 1.96**

It is seen from the table No. 1 that there is a difference in the mean performance of volleyball players (13.57) and basketball players (12.96). The value of 't' to be significant at 0.05 level at 298 degree of freedom is 1.96. As the obtained value of 't' was above 1.96 that is 5.439 which shows that there is a significant difference in agility of volleyball and basketball players.

Table No. 2 Comparison of Reaction Time of Right Leg between Volleyball and basketball male players

REACTION TIME OF RIGHT LEG									
Players	Number	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Volley Ball	150	10.28	2.25	0.03	0.27	0.37	1.34*	1.96	0.05
Basketball	150	10.65	2.53	0.04					

**Insignificant at 0.05 level with 298 degree of freedom tab t = 1.96**

It is seen from the table no. 2 that there is much similarity in the mean performance of volleyball (10.28) and basketball (10.65). The value of 't' to be significant at 0.05 level at 298 degree of freedom is 1.96. As the obtained value of 't' is below 1.96 that is 1.349 which shows that there is insignificant difference in reaction time of right leg of volleyball and basketball players.

Table No. 3 Comparison of Reaction Time of left Leg between Volleyball and basketball male players

REACTION TIME OF LEFT LEG									
Players	Number	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Volley Ball	150	9.82	2.13	0.03	0.24	0.15	0.62*	1.96	0.05
Basketball	150	9.67	2.21	0.03					

**Insignificant at 0.05 level with 298 degree of freedom tab t = 1.96**

It is seen from the table no. 2 that there is much similarity in the mean performance of volleyball players (9.526) and basketball players (9.673). The value of 't' to be significant at 0.05 level at 298 degree of freedom is 1.96. As the obtained value of 't' is below 1.96 that is 0.624 which shows that there is insignificant difference in reaction time of left leg of volleyball and basketball players.

Table No. 4: Comparison of Strength between Volleyball and Basketball male players

STRENGTH									
Players	Number	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Volley Ball	150	50.02	10.65	0.75	1.22	6.63	5.41*	1.96	0.05
Basketball	150	43.39	10.57	0.74					

**\*Significant at 0.05 level with 298 degree of freedom tab t = 1.96**

It is seen from the table no. 4 that there is a difference in the mean performance of volleyball players (50.02) and basketball players (43.39). The value of 't' to be significant at 0.05 level at 298 degree of freedom is 1.96. As the obtained value of 't' is above 1.96 that is 5.410 which shows that there is a significant difference in strength of volleyball and basketball players.

Table No. 5: Comparison of Flexibility between Volley Ball and Basketball male Players

FLEXIBILITY									
Players	Number	Mean	SD	SE-IND	SE	MD	OT	TT	LS
Volley Ball	150	<b>15.56</b>	<b>4.17</b>	<b>0.11</b>	<b>0.41</b>	<b>3.3</b>	<b>7.93*</b>	<b>1.96</b>	<b>0.05</b>
Basketball	150	<b>12.26</b>	<b>2.91</b>	<b>0.056</b>					

**\*Significant at 0.05 level with 298 degree of freedom tab t = 1.96**

It is seen from the table no. 4 that there is a difference in the mean performance of volleyball players (15.56) and basketball players (12.26). The value of 't' to be significant at 0.05 level at 298 degree of freedom is 1.96. As the obtained value of 't' is above 1.96 that is less than 7.93, which shows that there is a significant difference inflexibility of volleyball and basketball players.

### **Findings and Conclusions**

Volleyball and Basketball male players having great strength, agility, reaction time and flexibility, requires a high degree of maneuver ability. Through analysis and interpretation of data, similar reaction time of both legs is found in volleyball and Basketball male players. The reaction time of Volleyball players and Basketball players contains slight difference. Logically it is concluded that reaction time of both legs and both volleyball and Basketball players are more probably same the reason for this finding may be because of regular practice. Mean performance of agility of Basketball players (12.96) which is lesser than the mean performance of volleyball players (13.57) which shows that the agility of Basketball players is better than the volleyball male players. As the scores of agility is measured in seconds. Mean performance of explosive strength of volleyball players (50.02) have more (6.63) than Basketball players (43.39) which shows that the explosive strength volleyball players are better than the Basketball players. Mean performance of flexibility of volleyball players (15.56) have little more (3.3) than Basketball Players (12.26) which shows that the flexibility of volleyball players.

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## Trainers' perceptions of the relation between stress and sport competition activities among students at the University of Danang

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### Abstract:

One of the most important activities of sports education in Vietnamese University is annual tournaments for students. This kind of activity also aims at improving a student's health. Each college or university can send one team for each sport such as soccer, badminton, volleyball.... to compete in tournaments. Before these big activities, many students show anxiety and uncertainty which later affect their performance in competitions. With the support of interviews, questionnaires and Zung anxiety measurement test, the research objects of 164 students and 24 trainers show that anxiety before tournaments really decrease the competing spirit.

Keywords: students, trainers, competition, anxiety, sport.

### Introduction

In Vietnam, only a few researches about sport activities have ever been conducted while researches about sports' positive effects on human's life have been an attractive topic all around the world for a long time. Researches about how to improve performance in competitions with relation to diets, trainings, protection gears have also been conducted at many places all around the world (Kaynak, 2003; Mohr, Krstrup, & Bangsbo, 2003; Rodriguez, DiMarco, & Langley, 2009; Thompson & Trattner Sherman, 1999). Our research focuses on trainers, their opinions concerning their students and the quality of sports competition to suggest ways to reduce students' anxiety.

### Research objects and research methods

This research is conducted with anxiety measurement test Zung, questionnaires (Shafer, 2006) and statistics processing with SPSS software.

The objects for this research are 164 students and 24 trainers.

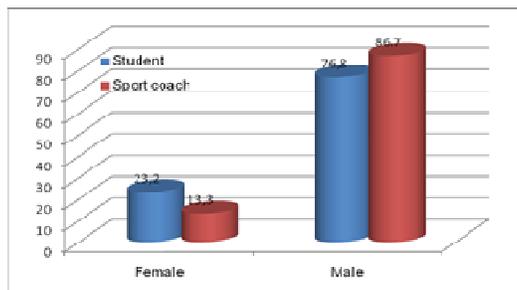


Figure 1: Number of research objects

### Results

#### Students' anxiety when competing:

The research shows that there is a correlation between students and trainers' opinions about students' anxiety. 71.4% of students think that they are very anxious while trainers think that the portion of students who are greatly anxious is 76.2%. This means that trainers are really the ones who understand their students' states.

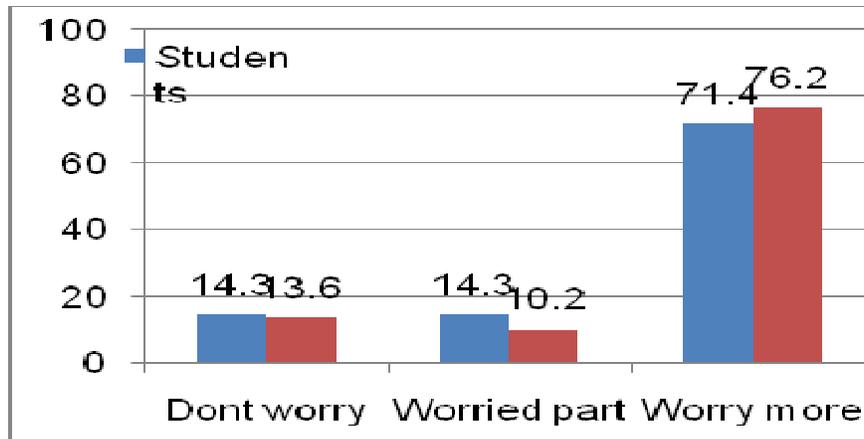


Figure 2: Anxiety of student

### Signs of anxiety (physiology, behaviors, awareness, emotions) when competing in sports.

Students' sign of anxiety pointed out and evaluated by trainers and students themselves are shown in the table below. There are similarities among opinions about body signs (headaches, exhaust, shaking limbs....) shown through the average point of 2.2/4. Behavioral signs also receive the same evaluation from both students and trainers with the AP of

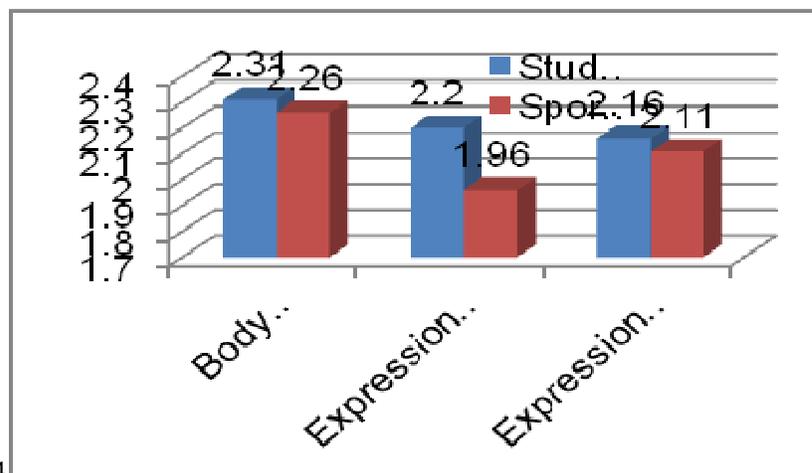


Figure 3: Signs of anxiety (physiology, behaviors, awareness, emotions) of student

### The effects of anxiety on performance

The effects of students' anxiety on their performance are stated as below:  
 To students: Students think that they are one of the reasons why the teams cannot achieve good results. The feeling of guilt receives the AP of 1.85 while the unwillingness to listen to the trainers has the AP of 2.13 and repeated mistakes during training has the AP of 2.16  
 For trainers: The students' anxiety affect their attitudes, making them uninterested, unenthusiastic and unhappy in training (AP=2.19). There are also signs of sadness and shyness (AP=2.16) and their worries about bad things happening (lack of strength (2.11), being anxious about no achievement (2.21), injuries, time consumption).

	N	Statements	Average point	Standard Deviation
Trainers	1.	Feeling of being the hindrance	2.25	.391
	2.	Feeling of being the one at fault	1.85	.491
	3.	No concentration when listening to trainers	2.13	.382
	4.	Repeated mistakes during training	2.16	.312
	5.	Unwillingness to take training	2.21	.358
	6.	The desire to quit	1.90	.251
Students	7.	Students having signs of anxiety	2.19	.354
	8.	Being late for training	2.22	.411
	9.	Worrying about their lack of strength	2.11	.432
	10.	Telling trainers about not having any prize	2.21	.452
	11.	Fear of injuries when competing	2.26	.463
	12.	Fear of time consumption for training	2.39	.418

**Table 1: The effects of anxiety on performance**

Student Nguyen Ving T said: "I'm really anxious and I don't want to compete in volleyball anymore. I'm really scared after seeing my friend falling". Student Tran Khanh C said: "I do enjoy playing sport because I feel really healthy and comfortable when doing so. However, I'm not really interested in playing for the school this time. I think that I missed too many classes because of training". Mrs Le Thi Ngoc H, badminton trainer stated: "From my observation, there are about 3 to five students with signs of anxiety in a team. They are only a small portion but the teams' spirit will decrease if the best players show no passion. As a result, I believe that it is necessary to make students feel comfortable during training and tournaments.". Mr Tran Dinh L, a football coach stated: "Football requires teamwork and good cooperation so it is easy to lose if some members of the team are not passionate and make the whole team play separately. The whole team will be affected if some students are afraid of injuries or get injured. Sometimes, they get stomachache or family businesses which confuse the other team members and make the team change the tactic".

### **Discussion and Suggestions**

Sport activities are necessary because people can improve their health and life quality through them (Haskell et al., 2007). In schools, promoting sport activities means helping a group of young people achieve good health (General et al., 1996).

Psychological researches in sports have been conducted in other countries (Athletes' mentality, trainers' mentality, and factors affecting the quality of competition...) yet there is no research about these subjects in Vietnam.

Our research about athletes' (students) anxiety during competitions in their school (The University of Da Nang) shows that:

- In reality, 70% of the students who participate in this research are really anxious (about their life in general and the competitions in particular)

- Their anxiety is expressed through: body (headaches, stomachache, shaking limb, insomnia.....); awareness (negative thoughts, negative expectations....); behaviors (being late for training, quitting training, making technical flaws....); emotions (sadness, sense of failure....)

- Trainers think that anxiety decreases athletes' performance, team spirit and individual strength. This is because they are not competing because they want to but because of their duty, responsibility for their schools/ departments.

Basing on the above results, we suggested a few ways to reduce the students' anxiety. We discussed the causes and drew out solutions related to recognition of the participating students (certificates, degrees, financial aids...); health protection activities improvement (body protection, diets, therapy...) and more expert technical guidance.

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## **Comparative Study Of Attitudes Of Secondary School Students Of Two States (India) Towards Physical Education**

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### **Abstract**

In this paper, the effort is made to make a comparison of attitude of secondary school students from the states of Jharkhand and Karnataka towards physical education. It was decided to find out their opinion through a WEAR ATTITUDE INVENTORY EQUIVALENT FORM - A QUESTIONNAIRE for the study of physical education attitude scales. It was hypothesised that the participants (secondary school students) of Jharkhand and Karnataka have a positive attitude towards Physical education. The study was restricted to the participants of secondary school Students of Jharkhand and Karnataka (India). The investigator administered the questionnaire which consists of 30 questions on the attitude towards Physical education. The questionnaire consists of both negative and positive questions. The answer was to be given in 5 point scale i.e SA, A, UD, D, SD. In total, 300 students (150 + 150) were selected from both states on a random basis. In order to compare the subjects of Jharkhand and Karnataka, 'T' Test was employed and the level of significance was set at 0.05. From the result of the study it was clearly visible that there is no significant difference in the opinion of Jharkhand and Karnataka students towards Physical education. Students of both states have a positive view towards Physical education.

Key words: Attitude, Physical education, Secondary School students, Wear Attitude Inventory etc

### **Introduction**

Physical Education, now a day is considered as an important and integral part of general education which aims at the harmonious development of an individual. But, in practice and from a functional point of view, it has not yet received due recognition or status as an academic subject. Many reasons could be attributed to this state of affair. Attitude is formed by people as a result of some kinds of learning experiences. If the experience is favorable, a positive attitude is found and vice versa. The attitude people hold can frequently determine the way they act in person and larger situation. For this reason, administrators, psychologists and sociologists are concerned with attitude development, how they affect behavior and how they can be changed. This is the crossroad physical education as an academic subject finds itself. Researches have shown that most parents are not happy to hear their children and wards talk about physical education and sports. Parents need to know about the academic programs in physical education. Some non-physical education lecturers at the colleges of education, and Universities believe that physical education is not for bright students, they saw it to be for the academic drop outs. Even parents often say "I do not send you to school to go and play sports, football or jumping and running on the field".

Many studies have concluded that there is a positive attitude towards physical education and participation in physical activity. This is the reason why student's attitude towards physical education and all those factors which influence those activities should be considered. It has been proved that middle school physical education always attempts to provide programs that encourage the early adolescent to engage in a consistent pattern of physical activity. Students' attitude toward physical education has been under investigation for a very long time. Traditionally, the purpose of such inquiry has been to identify factors that contribute to positive and negative feelings toward physical education. Investigators believed that having such information would improve the quality of physical education by allowing teachers to consider student insights when making curricular or program decisions. Subsequently, research in this area has been plentiful.

## Methodology

Subjects for concluding the study were selected randomly. A list of the students was taken and then a procedure for selection of subjects was followed on the basis of random sampling. Attitude towards physical education was measured by wear attitude inventory equivalent form A and was calculated in numbers. All the subjects in the present study were tested on the selected criteria of attitude towards physical education. All the subjects were briefed about the purpose of the study. The Wear Attitude Inventory Equivalent Form A was administered to all the students and their parents personally by the researcher. The entire questionnaire was demonstrated and explained to each subjects. The researcher met the subjects personally to get better response. Suitable instructions were passed to each subject in advance, so that maximum subjects respond to the questionnaire. Subjects were asked to read the questionnaire carefully and they were also instructed that there was no right or wrong answers, the individual feelings about each statement were only known by the researcher. Researcher further informed to all the subjects that the response received from each of them would be kept totally confidential and the responses given by them in no means would affect their results in academic results.

### Statistical Technique Employed in Study

In order to compare the subjects of Jharkhand and Karnataka, 't' Test was employed and the level of significance was set at 0.05.

### Results and Discussion

During the analysis of data as given below, it was found that there is no significance difference between the attitude of students of Jharkhand and the students of Karnataka. In most of the questions they answered, it was found that they have a positive view towards physical education in their respective states. Students from both the states revealed in 21 Questions out of 30 that they have a similarly positive view. However; differences of opinion were noted in the question number 3, 4, 5, 7, 8, 9, 17, 18, and 26.

Students Question No.	Pair Difference Mean	Jharkhand V/s Karnataka ( T- test)						
		SD	Std. Error Mean	95 % Confidence Interval of the Difference		T value	DF	Sig. tailed) (2-
				Lower	Upper			
1	-.15333	.71171	.05811	-.26816	-.03851	-2.639	149	.009
2	.08667	.80215	.06550	-.04275	.21609	1.323	149	.188
3	-.06000	.71635	.05849	-.17558	.05558	-1.026	149	.307
4	.02667	.71610	.08269	-.13809	.19143	.322	74	.748
5	.01333	.84334	.06886	-.12273	.14940	.194	149	.847
6	.08667	.80215	.06550	-.04275	.21609	1.323	149	.188
7	.01333	.84334	.06886	-.12273	.14940	.194	149	.847
8	.00667	.68047	.05556	-.10312	.11645	.120	149	.905
9	2.70667	.81551	.06659	2.57509	2.83824	40.649	149	.000
10	.08667	.80215	.06550	-.04275	.21609	1.323	149	.188
11	-.02000	.76387	.06237	-.14324	.10324	-.321	149	.749
12	-.04667	.74489	.06082	-.16685	.07351	-.767	149	.444
13	-.02000	.76387	.06237	-.14324	.10324	-.321	149	.749
14	-.08667	1.03585	.08458	-.25379	.08046	-1.025	149	.307
15	-.00667	1.15565	.09436	-.19312	.17979	-.071	149	.944
16	-.08667	1.03585	.08458	-.25379	.08046	-1.025	149	.307
17	.02667	.89702	.07324	-.11806	.17139	.364	149	.716
18	.02667	.89702	.07324	-.11806	.17139	.364	149	.716
19	-.02000	.76387	.06237	-.14324	.10324	-.321	149	.749
20	-.83333	1.09555	.08945	-1.01009	-.65658	-9.316	149	.000
21	-.10000	.76632	.06257	-.22364	.02364	-1.598	149	.112
22	-.10000	.76632	.06257	-.22364	.02364	-1.598	149	.112
23	.29333	.77327	.06314	.16857	.41809	4.646	149	.000
24	-.02000	.76387	.06237	-.14324	.10324	-.321	149	.749
25	-.02000	.76387	.06237	-.14324	.10324	-.321	149	.749
26	-.89333	1.16519	.09514	-1.08133	-.70534	-9.390	149	.000
27	-.01333	.78567	.06415	-.14009	.11343	-.208	149	.836

28	-.24000	1.12733	.09205	-.42188	-.05812	-2.607	149	.010
29	.06667	.79989	.06531	-.06239	.19572	1.021	149	.309
30	.06667	.70155	.05728	-.04652	.17986	1.164	149	.246

Question number 3: The opinion of Jharkhand and Karnataka students are in the same direction and both of them disagree that Physical Education is one of the most important subjects in helping to establish and maintain desirable social standards.

Question number 4: The opinions of Jharkhand and Karnataka students are in the same direction and both of them disagree that Vigorous physical activity works off harmful emotional tension.

Question number 5: The opinions of students were in the same direction and both of them agree that they would take Physical Education only when required.

Question number 7: The opinions of Jharkhand and Karnataka students were in the same direction and both of them disagree that because physical skills loom large in importance in youth, it is essential that a person be helped to acquire and improve such skills.

Question number 8: The opinions of Jharkhand and Karnataka students were in the same direction and both of them disagree that Calisthenics taken regularly are good for one's general health.

Question number 9: Responses received from students of Jharkhand and Karnataka were extremely in opposite directions. Students from Jharkhand strongly agree with the opinion that Skill in activity games or sports is not necessary for leading the fullest kind of life whereas students from Karnataka disagree with the same.

Question number 17: The opinion of Jharkhand and Karnataka students were in the same direction and both of them disagree that all who are physically able will profit from an hour of physical education each day.

Question number 18: The opinion of Jharkhand and Karnataka students are in the same direction and both of them agree that Physical education makes a valuable contribution towards building up an adequate reserve of strength and endurance for everyday living.

Question number 26: The response received with respect to this indicated that opinion of Jharkhand and Karnataka students are not in the same direction i.e. the students of Jharkhand were undecided that physical education should be included in the program of every school, whereas students from Karnataka strongly agree with this opinion.

### Conclusions

Result of the study concluded that there is no significant difference in the opinion of Jharkhand and Karnataka students towards Physical education. Students of both Indian states have a positive view towards Physical education. Hence the hypothesis stated earlier was accepted in all questions except for the question no 3, 4, 5, 7, 8, 9, 18, and 26 respectively, where the hypothesis was rejected.

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## **A Comparative Study of Speed and Agility among Base Ball Players and Cricketers of Osmania University**

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### **Introduction**

Cricket is a bat-and-ball game played between two teams of 11 players each on a field at the centre of which is a rectangular 22-yard long pitch. The game is played by 120 million players in many countries, making it the world's second most popular sport. Each team takes its turn to bat, attempting to score runs, while the other team fields. Each turn is known as an innings. The bowler delivers the ball to the batsman who attempts to hit the ball with his bat away from the fielders so he can run to the other end of the pitch and score a run. Each batsman continues batting until he is out. The batting team continues batting until ten batsmen are out, or a specified number of over's of six balls have been bowled, at which point the teams switch roles and the fielding team comes in to bat.

Baseball is a bat-and-ball game played between two teams of nine players each who take turns batting and fielding. The offense attempts to score runs by hitting a ball that is thrown by the pitcher with a bat swung by the batter, then running counter-clockwise around a series of four bases: first, second, third, and home plate. A run is scored when a player advances around the bases and returns to home plate.

Players on the batting team take turns hitting against the pitcher of the fielding team, which tries to prevent runs by getting hitters out in any of several ways. A player on the batting team who reaches a base safely can later attempt to advance to subsequent bases during teammates' turns batting, such as on a hit or by other means. The teams switch between batting and fielding whenever the fielding team records three outs. One turn batting for both teams, beginning with the visiting team, constitutes an inning. A game comprises nine innings, and the team with the greater number of runs at the end of the game wins. Baseball is the only major team sport in America with no game clock, although almost all games end in the ninth inning.

Motor Components required for Cricketers and Base ball players

- 1.Speed / Quickness, Balance & Coordination
- 2.Motivation & Self Confidence, Skill and Technique
- 3.Strength & Power, Reaction Time
4. Analytic & Tactical Ability
- 5.Flexibility, Agility
- 6.Body Size and Composition, Aerobic Endurance.

### **Methodology:**

The Purpose of the present study to find out the Speed and Agility among Male Base Ball Players and Male Cricketers of Osmania University.

### **Methodology:**

The sample for the present study consists of 20 Male Base Ball Players and 20 Male Cricketers Players of Osmania University. To assess the Speed and Agility the 50 M Run Test and Shuttle Run Test Were conducted among Base Ball Players and Cricketers

**50 M Run:**

Sprint or speed tests can be performed over varying distances, depending on the factors being tested and the relevance to the sport.

purpose: The aim of this test is to determine acceleration and speed.

equipment required: measuring tape or marked track, stopwatch, cone markers, flat and clear surface of at least 70 meters.

procedure: The test involves running a single maximum sprint over 50 meters, with the time recorded.

results: Two trials are allowed, and the best time is recorded to the nearest 2 decimal places.

**Agility Shuttle Run Test**

This test describes the procedure as used in the President's Challenge Fitness Awards. The variations listed below give other ways to also perform this test.

**purpose:** this is a test of speed and agility, which is important in many sports.

**equipment required:** wooden blocks, marker cones, measurement tape, stopwatch, non-slip surface.

**procedure:** This test requires the person to run back and forth between two parallel lines as fast as possible. Set up two lines of cones 30 feet apart or use line markings, and place two blocks of wood or a similar object behind one of the lines. Starting at the line opposite the blocks, on the signal "Ready? Go!" the participant runs to the other line, picks up a block and returns to place it behind the starting line, then returns to pick up the second block, then runs with it back across the line.

**scoring:** Two or more trails may be performed, and the quickest time is recorded. Results are recorded to the nearest tenth of a second.

**Results and Discussion:**

The Results of the Study shows that Cricketers are having better Speed a Compare to Base ball Players and Base ball Players are having the better agility compare to Cricketers.

**Table-I: Mean values of 50 M Run between Cricketers and Base Ball Players****Table – I**

	GROUP	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
50 M	Cricketers	30	7.01	0.23	0.07	-1.80	38.00	0.09
	Base Ball Players	30	7.29	0.45	0.14			

In Table –I the Mean Values of 50 M Run of Cricketers is 7.01 and Base ball Players is 7.29 The Average Mean of Cricketers in 50 M Run is lesser than the Base Ball Players. It was found that Cricketers are having good speed compare to Compare to the Base Ball Players. Hence it is also concluded that Speed bowling is required in Cricket compare to Base Ball and Cricketers are having better speed than Base ball players.Speed plays an important role in Cricket and base ball to exhibit the high level of performance.

**Table-II Mean values of Shuttle Run Test between Cricketers and Base Ball Players****Table – II**

	GROUP	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Shuttle run Test	Cricketers	30	15.38	0.56	0.17	2.53	38.00	0.02
	Base Ball Players	30	14.10	1.20	0.37			

In Table –II the Mean Values In Shuttle Run Test of Cricketers is 15.38 and Base ball Players is 14.10. The Base Ball Players are having better agility compare to Cricketers.

**Conclusion:**

It is concluded that Cricketers are having better speed than Base Ball Players.It is concluded that Base Ball Players are having better agility than Cricketers..Conditioning Exercises plays a major role for improvement of speed among Base Ball and Cricketers.

**Recommendations:**

1. Similar studies can be conducted on other Events and among females.
- 2.This study also helps the physical educators and coaches to improve their training regime to excel in Base Ball and Cricketers.

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## A Study On Anaerobic Capacity Among Physical Education Trainees

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### Abstract

The purpose of the present study was to determine the anaerobic capacity between physical education trainees of Kuvempu University and Davanagere University. To obtain data for this study, one hundred (n=100) subjects were randomly selected out of which fifty (n=50) from Kuvempu University and fifty (n=50) from Davanagere University affiliated colleges. The age of the subjects ranged from 22 to 28 years. To collect the required data for anaerobic capacity Margaria Step Test was used. T test was applied to determine the significance of difference between the selected subjects. The level of significance was set at 0.05. The results revealed no significant difference between Physical education trainees of Kuvempu University and Davanagere University on variables of anaerobic capacity.

Key Words: Anaerobic capacity, Physical education.

### Introduction:

Anaerobic exercise is a physical exercise intense enough to cause lactate to form. It is used by athletes in non-endurance sports to promote strength, speed and power and by body builders to build muscle mass. Muscle energy systems trained using anaerobic exercise develop differently compared to aerobic exercise, leading to greater performance in short duration, high intensity activities, which last from mere seconds to up to about 2 minutes. Any activity lasting longer than about two minutes has a large aerobic metabolic component. The anaerobic capacity is the total amount of energy from the anaerobic (without oxygen) energy systems that is the combined amount of output for the ATP, phosphocreatine and lactic acid systems. The anaerobic system is maximally stressed in short duration high intensity activities (generally between 30 seconds and several minutes), and most of the following tests are over this time period. A related measure is the anaerobic threshold or lactate threshold measurements. The aim of the present study was to determine the anaerobic capacity between Physical education trainees of Kuvempu University and Davanagere University.

### OBJECTIVE OF THE STUDY:

The objective of the study is to compare the anaerobic capacity between Physical education trainees of Kuvempu University and Davanagere University.

### Methodology:

To obtain data for this study, one hundred (n=100) subjects were selected out of which fifty (n=50) from Kuvempu University and fifty (n=50) from Davanagere University affiliated colleges. The age of all subjects ranged from 22 to 28 years. To measure the anaerobic capacity, Margaria Step Test was used.

### STATISTICAL TECHNIQUE:

To identify the difference between Kuvempu University and Davanagere University Under graduate physical education trainees, statistical technique T test was applied. The level of significance was set at 0.05.

### Results:

The data collected to achieve the objective of the study was analysed and results are presented in the following table

Table 1 shows the mean value, standard deviation and t value of anaerobic capacity of under graduate physical education trainees of Kuvempu University and Davangere University

Sl. No.	Subjects	N	Mean	Std. deviation	t value
1	Kuvempu University	50	96.79	18.12	1.04
2	Davanagere University	50	96.91	15.13	

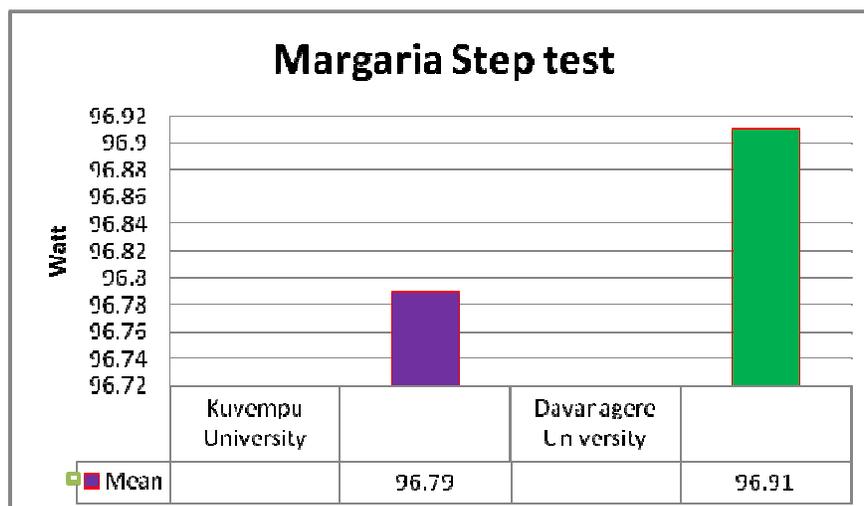


Fig. 1: mean value of anaerobic capacity of physical Education trainees

**Conclusion:**

It is concluded that there is no significant difference in anaerobic capacity was found between under graduate Physical education trainees of Kuvempu University and Davanagere University. This is due to the training they get during the course is similar.

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## **The Influence of Socio Economic Status and Psychological Factors among University Level Players in Selected Sports and Games.**

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### **Introduction**

Present study and previous literatures states on sports sociology to the importance of the Socio-Economic status of athlete because it's directly affects at performance of the athlete. Socio-economic status is an important factor in sports success and sport is an important ingredient in a democratic society. An individual's socio-economic status may influence his choice of activity, in which he take part effectively and performed the skills with a high level of motivations. It has been recognized that socio-economic factors play a vital role in an individual's performance in sports. The Socio-economic status make-up of an individual plays an important role in their achievements in every field of life. Considerable research have been conducted on the socio-economic status of sports persons, individuals sport players. But very few research studies are available in published from a socio-economic status of on sports like team and individual game players. There are many psychological factors like socio-economic status attitudes, motives, spectators, self concept, motivation, adjustment etc., which influence the participation and performance of sportsmen in games and sports. The socio-economic status of the group and the status of an individual in his group influence competitive and co-operative behavior for different reasons and the different factors that those motivating people in the middle and upper economic group influencing the well being of the players.

Previous literature states on sports psychology, to the importance of the psychological and mental state of athletes because it's directly affects at both the physical and psychological case state of the athlete; and subsequently his ability to perform at his best.

The psychological ability the individuals to mobilize their efforts and their physical energy to achieve the best sport practicing which can be developed through special training and programs dedicated to this purpose. Sport psychology researchers and practitioners, coaches, sports commentators, sports fans, and athletes acknowledge the importance of mental toughness in sporting performance and they pointed out and believe that at least fifty percent of success is due to psychological factors that reflect mental ability. When we look at the problems facing the Volleyball, Basketball, cricket, Tennis, Kabaddi and Kho-Kho team players, especially the Jawahar Lal Technological University, Kukatpally, we find that most of these problems are socio-economic status, psychological behavioral and emotional. Such problems usually arise due to the new life of professional sports, stardom appearance and excellence among peers, and the responsibility towards the large number of tasks entrusted to them in this early age. Ability to deal with new situations, draw plans, and deal with success professionally to achieve winning in competitions and gain fame as a means of achieving self-esteem, which is necessary for sports profession.

Socio economic status plays an important role to the success of every player's life more than that it pertains to the psychological factors and emotional behavior. Psychological stress over the players affects the playing ability and the performance of the players at low and higher levels.

On the basis of this background the investigator notes that Socio-Economic status has paramount influence in sports performance. In Inter University and All India Inter University level research on socio-economic status, anxiety and aggression is much limited, therefore, the present study "Influence of Socio Economic Status and Psychological Factors among University Level Players in the games of Volleyball, Basketball, cricket, Tennis, Kabaddi and Kho-Kho team players of Jawaharlal Nehru Technological University, Kukatpally, Hyderabad.

## Methodology

The purpose of the study was to find out the Influence of Socio Economic Status and Psychological Factors among University Level Players in Selected Sports and Game.

### Design of the Study

The present study was a survey method. The socio-economic status and anxiety and aggression scales of the Jawaharlal Nehru Technological University, Kukatpally, Hyderabad, players those who participated in Inter University level for consecutive two years.

The selected subjects further were divided in to three categories with fifty numbers in each.

Category- I served as Volleyball, Basketball Teams,

Category- II served as Cricket and Tennis Teams.

Category III served as Kabaddi and Kho-Kho Teams

Based on the amount of money spent by the participants, Socio economic status and psychological factors.

Year	Inter-University						Total
	Category- I		Category- II		Category III		
2014-15 and 2015-16	Volleyball	Basketball	Cricket	Tennis	Kabaddi	Kho-Kho	150
	25	25	25	25	25	25	
	50		50		50		

### Selection of subjects

To achieve the purpose of the study, One hundred and fifty Jawaharlal Nehru Technological University, Kukatpally, Hyderabad, team players men players in the age of 20 to 25 years, in selected games, Volleyball-25, Basketball-25, cricket-25, Tennis-25, Kabaddi-25 and Kho-Kho-25 games, from 2014-2016, were selected as subjects and were divided in to three categories with fifty numbers in each (Volleyball-25, Basketball-25=50, cricket-25, Tennis-25=50 and Kabaddi-25 and Kho-Kho-25=50).

### Selection of Variables

The variables were selected based on the discussions with experts, feasibility of the criteria, availability of tools, and the relevance of the variables to the present study. The investigator selected the following variables.

#### Socio-Economic Status Variables

1. Community 2. Fathers' Education 3. Fathers' Income per annum 4. Performance of players.

#### Psychological Factors

1. Anxiety (Sports Competition Anxiety Test) (SCAT) 2. Aggression

The first step in the process of data collection for the study was to establish contact with the Volleyball, Basketball, Cricket, Tennis, Kabaddi and Kho-Kho, players who participated from 2014-2016 at Inter University players, which fell within the sampling frame of the present study.

Accordingly, letters were posted to coaches/boards, chief of the selected Inter University teams, seeking their permission to administer the questionnaire and tests on the players. After confirmation of permission from the respective Head, Coaches/Team Managers were informed of the tentative dates of visits of the places. The permission letter is produced by the concerned head. The first task of the investigator on beginning the administering of the questionnaire to the players was to brief the players about the purpose of this study and assured them the information gathered from them would be kept confidential. With this introduction, the investigator was able to persuade the respondents to give reliable information regarding the income of the household. After distributing the questionnaire in the classroom and hostel room, the investigator explained every item in the questionnaire and the students subsequently filled the questionnaire.

The investigator clarified the doubts of the students whenever the students raised any. After the completion of filling up the questionnaire the investigator with the help of his assistant collected the questionnaire.

The investigator started his data collection from Volleyball, Basketball, Cricket, Tennis, Kabaddi and Kho-Kho, players who participated from 2014-2016 at Inter University players. In the present survey, every possible effort was taken to reduce, as far as possible the Non-sampling error. The purpose of the study was explained and enough confidence was created in the minds of the respondents so as to make them reveal their family financial position if necessary with relevant information.

### Administration of Questionnaires

The data were collected with the help of five Ph.D., Scholars of Department of Physical Education who were well versed with the conduct of test (questionnaire), and collections under the direct supervision of the research scholar. To ensure the co-operation of subjects, the investigator has personally met all the subjects selected for the study. The investigator gave very clear instructions regarding the method of answering the questionnaire. All the questionnaires were administered by the investigator in a fact to face relationship with the subjects. The subjects were asked to tick the statements giving personal information on the front page and then to answer questions. All the questionnaires were in simple English enabling the students to read and understand and respond to the questions. Time was not restricted but everyone completed it within thirty minutes.

### Description of the Tools

In the present study an attempt has been made to examine the relationship between socio-economic status and psychological factors among the Inter University Volleyball, Basketball, Cricket, Tennis, Kabaddi and Kho-Kho, players. Socio-economic status was measured by adopting the scale developed by Kuppuswamy. The socio-economic status scale evolved by Kuppuswamy consists of the factors of caste, education, occupation and income. Since results of several studies have indicated that caste plays a dominant role in the Indian social setting, the investigator has included the factor 'caste' in the measurement of socio-economic status. Thus socio-economic status scale was used in the study, measures status in terms of factors, namely caste, education, occupation and income.

### Psychological Factors

There is a closer relationship between physical education and psychology than in any other field. Physical education and psychology are hand in glove with each other. Fitness and human performance are much influenced by psychological aspects. Especially, some psychological parameters are highly influencing physical performances. Studies are scarce in Indian conditions on anxiety and aggression. Hence this study was undertaken to study the variation among the state level men football players. To assess sports competition anxiety and aggression sports competition anxiety test (SCAT) scale devised by Marten's (1977) and aggression questionnaire by Smiths (1981) were respectively used.

### Results

**Table-1** shows the percentage scores of Volleyball, Basketball, Cricket, Tennis, Kabaddi and Kho-Kho, players based on the community.

Sl.No	Community	Category-I Volleyball Basketball	% scores	Category-II Cricket Tennis	% scores	Category-III Kabaddi Kho-Kho	% scores	Total	% scores
1	SC/ST	13	26	05	10	21	42	59	118
2	BC	21	42	18	36	22	44	63	126
3	OC	16	32	27	54	7	14	28	56
	TOTAL	50		50		50		150	

**Table-1** shows the percentage of players in SC/ST, BC and OC communities in Category-I Volleyball Basketball Team players were 26%, 42%, and 32% respectively. The percentage of Category-II Cricket Tennis players in SC/ST, BC, and OC communities in Team players were 10%, 36%, and 54% respectively. And the percentage of players in SC/ST, BC and OC Category-III Kabaddi Kho-Kho communities were 42%, 44% and 14% respectively.

**Table-1a** shows the Mean and Standard Deviations of Volleyball, Basketball, Cricket, Tennis, Kabaddi and Kho-Kho, players low and high level performers based on the community.

Sl.No	Participating Team	Mean and Standard Deviation
1	Category- I Volleyball Basketball Team players	4.55 ± 1.31
2	Category- II Cricket Tennis players	3.15 ± 1.41
3	Category- III Kabaddi Kho-Kho	2.7 ± 1.25

**Table-1a** showed the mean and standard deviations of Category-I Volleyball Basketball Team players; Category-II Cricket Tennis players, low and high level performers based on Community. The results of the study showed that there was a significant difference among Category- I and Category- II Cricket Tennis players team players on community basis. By this fact it was also found that Category-III Kabaddi Kho-Kho proved to be effective in the high level performance than other teams.

**Table-2** shows the Mean and Standard Deviations of Volleyball, Basketball, Cricket, Tennis, Kabaddi and Kho-Kho, players of low and high level performers based on the Education

Sl.No	Participating Team	Mean and Standard Deviation
1	Category- I Volleyball Basketball Team players	5.15 ± 1.12
2	Category- II Cricket Tennis players	4.8 ± 1.01
3	Category- III Kabaddi Kho-Kho	3.2 ± 1.24

**Table-2** showed the mean and standard deviations of Category-I Volleyball Basketball Team players; Category-II Cricket Tennis players, low and high level performers based on Education. The results of the study showed that there was a significant difference among Category- I and Category-III Kabaddi Kho-Kho players team players on community basis. By this fact it was also found that Category-I and Category-II Cricket Tennis proved to be effective in the high level performance than other teams.

**Table-3** shows the **percentage scores of** Volleyball, Basketball, Cricket, Tennis, Kabaddi and Kho-Kho, players of low and high level performers based on the Income.

Sl.No	Income	Category- I Volleyball Basketball	% scores	Category- II Cricket Tennis	% scores	Category- III Kabaddi Kho-Kho	% scores	Total	% scores
1	Rs. Below 20,000	--	---	---	---	---	---	---	---
2	Rs. 21,000 to 35,000	--	---	---	---	4	8	4	
3	Rs. 35,001 to 50,000	8	16	6	12	10	20	24	
4	Rs. 50,001 to 75,000	26	52	26	52	26	52	78	
5	Rs. 75,001 to 1.00.000	16	32	18	36	10	20	44	
	TOTAL	50		50		50		150	

**Table-3** shows that the percentage score of father's income of Category-I Volleyball, Basketball team players between Rs. below 35,000 were 0%, Category-II Cricket Tennis 0%, Category-III Kabaddi Kho-Kho 8% respectively. The percentage score of father's income of Salem and Coimbatore team players between Rs. 35,001 to 50,000 of Category-I Volleyball, Basketball team players were 16%, Category-II Cricket Tennis 12% and Category-III Kabaddi, Kho-Kho 20% respectively. The percentage score of father's income of Salem and Coimbatore team players between Rs. 50,001 to 75,000 of Category- I Volleyball, Basketball team players were 52%, Category- II Cricket Tennis 52% and Category- III Kabaddi, Kho-Kho 52% respectively. The percentage score of father's income of Salem and Coimbatore team players between Rs. Rs. 75,001 to 1.00.000 of Category-I Volleyball, Basketball team players were 32%, Category-II Cricket Tennis 36% and Category-III Kabaddi, Kho-Kho 44% respectively

**Table-3a** shows the Mean and Standard Deviations of Volleyball, Basketball, Cricket, Tennis, Kabaddi and Kho-Kho, players of low and high level performers based on the Income.

Sl.No	Participating Team	Mean and Standard Deviation
1	Category- I Volleyball Basketball Team players	6.45 ± 1.05
2	Category- II Cricket Tennis players	5.10 ± 1.11
3	Category- III Kabaddi Kho-Kho	4.11 ± 1.15

**Table-3a** showed the mean and standard deviations of Category-I Volleyball Basketball and Category-III Kabaddi Kho-Kho and Category-II Cricket Tennis players, low and high level performers based on Income. Based on Income, The results of the study showed that there was a significant difference among Category-I Volleyball Basketball Team and Category-III Kabaddi, Kho-Kho team players. Increase in income influence the Category-II Cricket Tennis Team in performing players to the high level when compared to other teams.

**Table-4** Shows the percentage scores of Category-I Volleyball Basketball, Category-II Cricket Tennis and Category-III Kabaddi and Kho-Kho, team players based on the Level of Anxiety

Sl.No	Income	Category-I Volleyball Basketball	% scores	Category-II Cricket Tennis	% scores	Category-III Kabaddi Kho-Kho	% scores	Total	% scores
1	Very Low 14 to 16 points	12	24	08	16	10	20	30	60
2	Low 17 to 19 points	12	26	14	28	13	26	40	80
3	Medium 20 to 22 points	18	26	16	32	17	34	51	102
4	High Low 23 to 25 points	06	12	12	24	09	18	27	54
5	Very High 26 to 28 points	01	02	00	00	01	02	02	04
	TOTAL	50		50		50		150	

**Table 4** shows that the percentage scores of very low, low, medium, high and very high level of anxiety of Category-I Volleyball Bask team players were 24%, 26%, 36%, 12% and 2%. And the percentage scores of very low, low, medium, high and very high level of anxiety of Category-II Cricket Tennis team players were 16%, 28%, 32%, 24% and 0%. And also the percentage scores of very low, low, medium, high and very high level of anxiety of Category-III team players were 20%, 26%, 34%, 18%, and 2%. Table-4a shows the Mean and Standard Deviations of Category- I Volleyball Basketball, Category- II Cricket Tennis and Kabaddi and Kho-Kho, Team players of low and high level performers based on the Level of Anxiety.

Sl.No	Participating Team	Mean and Standard Deviation
1	Category- I Volleyball Basketball Team players	18.15 ± 1.01
2	Category- II Cricket Tennis players	19.8 ± 1.20
3	Category- III Kabaddi Kho-Kho	20.12 ± 1.12

**Table-4a** showed the mean and standard deviations of Category- I Volleyball Basketball, Category- II Cricket Tennis and Kabaddi and Kho-Kho, Team players, low and high level performers based on anxiety. No significant difference was found between Category- I Volleyball Basketball, Category and Category-III Kabaddi, Kho-Kho Team players on anxiety. In fact the subjects in the group 2 and 3 had relatively higher level of anxiety as compared to that of Category- II Cricket Tennis players. This may be due to the reason that both the teams involve relatively higher level of uncertainty. Table-5 shows the percentage scores of Category- I Volleyball Basketball, Category- II Cricket Tennis and Kabaddi and Kho-Kho, Team players of low and high level performers based on the Level of Aggression.

Sl.No	Income	Category-I Volleyball Basketball	% scores	Category-II Cricket Tennis	% scores	Category-III Kabaddi Kho-Kho	% scores	Total	% scores
1	Very Low 6 to 8 points	04	08	07	14	06	12	17	34
2	Low 9 to 11 points	16	32	13	26	14	14	43	86
3	Medium 12 to 14 points	20	40	23	46	20	40	63	126
4	High Low 15 to 17 points	08	04	06	12	07	14	21	42
5	Very High 18 points and above	02	04	01	02	03	06	06	12
	TOTAL	50		50		50		150	

**Table-5** shows that the percentage scores of very low, low, medium, high and very high level of aggression of Category-I Volleyball, Basketball team players were 8%, 32%, 40%, 4% and 4%. And the percentage scores of very low, low, medium, high and very high level of anxiety of Category-II Cricket Tennis team players were 14%, 26%, 46%, 12% and 2%. And also the percentage scores of very low, low, medium, high and very high level of anxiety of Category-III, Kabaddi Kho-Kho team players were 12%, 28%, 40%, 14% and 6%.

**Table-5a** shows the Mean and Standard Deviations of Category-I Volleyball Basketball, Category- II Cricket Tennis and Kabaddi and Kho-Kho, Team players of low and high level performers based on the Level of Aggression.

Sl.No	Participating Team	Mean and Standard Deviation
1	Category- I Volleyball Basketball Team players	11.22 ± 1.10
2	Category- II Cricket Tennis players	11.65 ± 1.25
3	Category- III Kabaddi Kho-Kho	12.11 ± 1.60

**Table-5a** showed the Mean and standard deviations of Category-I Volleyball Basketball; Category-II Cricket and Tennis Category-III Kabaddi, Kho-Kho team players, low and high level performers based on aggression. The result of the study showed that there was no significant difference among Category-I, Volleyball Basketball; Category-II, Cricket and Category-III Kabaddi and Kho-Kho team players on the level of aggression. The level of aggression among the three groups shows no variations in games. They found to be effective in performing the game on better level.

### Discussions

The resulted study shows the effect of socioeconomic status and psychological factors on Category-I Volleyball Basketball; Category-II Cricket and Tennis and Category-III Kabaddi Kho-Kho team players. In the present study, Socio economic status of the players of Category-II Cricket and Tennis teams was higher than that of Category-I Volleyball Basketball and Category-III Kabaddi Kho-Kho. Category-I Volleyball Basketball; and Category-III Kabaddi, Kho-Kho teams players. Socioeconomic status pertain the player's life with community, education, income and occupation to meet out their ability in playing game and aplomb performance. Socio-economic status refer to the social and economic position occupied by parents in the society, It is defined as a level made up of individuals who deem themselves equal due to similarities in family background, level of education, occupation, race and attitude towards social issues. Anxiety is an independent excitation state that it is followed with mental feelings and appreciation. The, anxiety has biological and mental aspects. And in anxious situations, it is seen objectively. In fact, an anxiety state is determined with tension fear, unrest, attitude, excitement and automatic nervous system activity. The level of anxiety observed among the participants of three team players revealed that there is association between the level of anxiety and the game performance. Category-I Volleyball Basketball and Category-III Kabaddi, Kho-Kho; participants had relatively higher level of anxiety as compared to the participants of Category-II Cricket and Tennis teams. This may be due to the reason that both teams involve relatively high level of uncertainty of success. The present study concluded that, of these two psychological factors, aggressiveness is highly correlated with game playing ability at insignificant level. The results of this investigation reveal that moderate levels of anxiety and aggressiveness are present among the Jawaharlal Nehru Technological University, Kukatpally, Hyderabad, Inter-University Volleyball, Basketball, Cricket, Tennis, Kabaddi and Kho-Kho team players. In the present study showed that there was no significant difference in the level of aggression among the three team players. It also shows no variations in their playing ability and performance based on the levels of aggression.

### Conclusions

Based on the findings and discussion of the present study, it can be concluded that the socioeconomic-status and psychological factors plays a vital role in Volleyball, Basketball, Cricket, Tennis, Kabaddi and Kho-Kho team players in their skill development, ensuring the playing ability and enhances the performances to achieve the player's goal. In the present study, Cricket and Tennis, players showed their efficiency in improving the playing ability and produced high level performance than other teams.

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## Physical And Physiological Parameters Assessment Of SAAP Hostel Students At Srikakulam District, Andhra Pradesh

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### Abstract

The purpose of this study is the Assessment of the training effects on the physical and physiological parameters of SAAP (Sports Authority of Andhra Pradesh) students. In order to assess the effects on anaerobic power and standing broad jumping parameters of student, was tested some students that were selected as voluntary. Coordination test, anaerobic power test and standing broad jump test was performed. The training influenced on the parameters significantly in compare to the first state of them, at 1 and 5 probability level. But coordination tests showed negative significant results. This study concluded the difference time and strength of the training with more exact to do for different student with wide age limitation.

KEY WORDS: Physical parameters, Anaerobic power, Jumping and Coordination

### Introduction And Problem Of The Study

Today Sports And Exercise Are Applied By Millions Of Persons In Order to move away from stress, raise their quality of life (TAS ET al.2008). By doing long-term practice, play sports can promote metabolism. Physical exercise is planned to make propel changes in body that occur to body and organ system's metabolism so as to improve each organ system structure and functions, make it a series of higher adaptability that causes to human physical quality can strengthen (Wang et al., 2012). During sports process persons have some changes in their physiological properties and parameters, such as muscle excitement, breathe speed increasing, heart rate promotion, perspiration, temperature changed. These physiological parameters have close relationships with sports amount and sport process duration. Information of sport physiological factors change is helpful for physical education teaching and sports training (Deng et al., 2004). College students are sometimes under heavy learning responsibility, great learning pressure that causes them in tight plans. As a result of this case, they do not have time to do exercise. In this way physical quality gets worse so that cannot support heavy learning, damaged circles generate. It can be shown that physical exercise is important to college students. By analyzing the physical education exercise characteristics, after discovering the measurement sport physiological parameters, make real time analysis of such data can play important information transfer role in physical education training and matches and provide important bond to effective development of physical education teaching (Li, 2012). Performance is included physical, physiological, biomechanical and psychological product that produced by the athletes. When structural factors are considered in addition to physiological factors; body measurements and proportions as well as physical and body compositions become important factors that affect physical performances (Colakoglu et al., 2014). The aim of the study was to assess physical and physiological parameters of the SAAP hostel students at Srikakulam District, Andhra Pradesh. With our study can be illustrated the sport science reaction strength to the physical and physiological parameters.

### Methodology

Subjects: The study population was consisted of 33 male students of SAAP hostel Srikakulam District, Andhra Pradesh. The students were selected as voluntary. This study took 14 weeks during off season time.

Physical and physiological measurements: The age, height and body weight of the student was measured and noted. Some test was applied such as Coordination test, Sargent Jump Test and Standing Long Jump Test.

Coordination is the ability to move two or more body parts under control, smoothly and efficiently. Manual dexterity tests or tests of hand-eye coordination also fall into this category.

To measure the anaerobic power test was used of Sargent Jump Test. The Sargent Jump Test also known as the vertical jump test was developed by Dr. Dudley Allen Sargent (1849-1924). The athlete's anaerobic power was measured by this formula:

$$P = (\sqrt{4.9} (w) \sqrt{D})$$

P: Anaerobic power (kg.m/sec)

W: Body weight (kg)

D: Jumping distance (m)

$\sqrt{4.9}$ : Standard time (sec)

The Standing long jump, also called the Broad Jump, is a common and easy to administer test of explosive leg power.

4. Procedure of standing long jump: The athlete stands behind a line marked on the ground with feet slightly apart. A two foot take-off and landing is used, with swinging of the arms and bending of the knees to provide forward drive. The subject attempts to jump as far as possible, landing on both feet without falling backwards. Three attempts are allowed.

Procedure of Sargent Jump Test:

STEP I: The athlete warms up for 10 minutes.

STEP II: The athlete chalks the end of his/her finger tips.

STEP III: The athlete stands side onto the wall, keeping both feet remaining on the ground, reaches up as high as possible with one hand and marks the wall with the tips of the fingers (M1).

STEP IV: The athlete from a static position jumps as high as possible and marks the wall with the chalk on his fingers (M2).

STEP V: The assistant measures and records the distance between M1 and M2.

STEP VI: The athlete repeats the test 3 times. The assistant calculates the average of the recorded distances and uses this value to assess the athlete's performance.

6. The measurement of height and body weight:

To measure the person's height was used of medical measurement tool that used when the persons erect with naked foot. The body weight was measure by the medical measurement tool after the person undressing and only wears shorts

Table 1: Descriptive statistics

	Count	Mean
Height	33	176.75(m)
Age	33	21.84(years)
Body Weight	33	71.93(k.gs)
Coordination-1	33	18.47(Sec)
Coordination-2	33	17.73(Sec)
Coordination-3	33	16.92(Sec)
Anaerobic Power-1	33	98.72(Kg.m/Sec)
Anaerobic Power-2	33	109.18(Kg.m/Sec)
Anaerobic Power-3	33	109.84(Kg.m/Sec)
Standing Broad jump-1	33	2.30(m)
Standing Broad jump-2	33	2.34(m)
Standing Broad jump-3	33	2.37(m)

Training program:

Training name: Rapid force

Training aim: Development of rapid force (Anaerobic power)

Training time: 15-25 sec Loading Intensity: 40-60%

Series number: 3-5 Rest: 3-5 min (Between series)

Movements:

1. Jumping to right and left on the gymnastics bench
2. Skip and transition between Slalom rods
3. Somersault to front cushion straight
4. Vertical jumping
5. Shuttle and push-up movement performance

## Results

In this study was evaluated the effect of anaerobic power training of the 20-24 years age of SAAP hostel students on the physical and physiological parameters during 14 weeks and 2-3 times doing technique training during week. For the experimental group, before study, the principle of anaerobic power training showed parallelism for the performed training principle number and other effects plan for the selected study. Anaerobic power showed increasing as 11 kg.m/sec and the first amount and the end amount of anaerobic power had significant difference at 1% probability level (fig. 1). Standing long jump had raising as 4cm and the first and the end measurement of this parameter had significant difference at 5% probability level (Fig. 2). According to the results, there was significant and negative difference between coordination tests at 1% probability level (fig. 3)

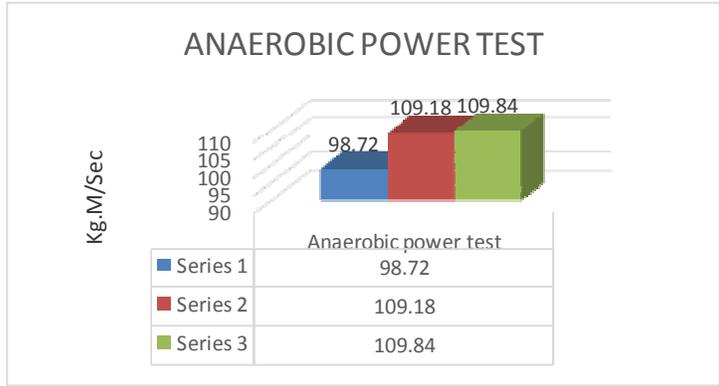


Figure-2

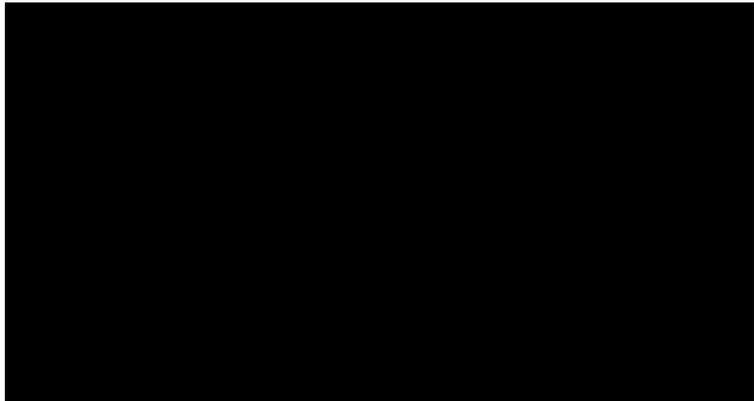
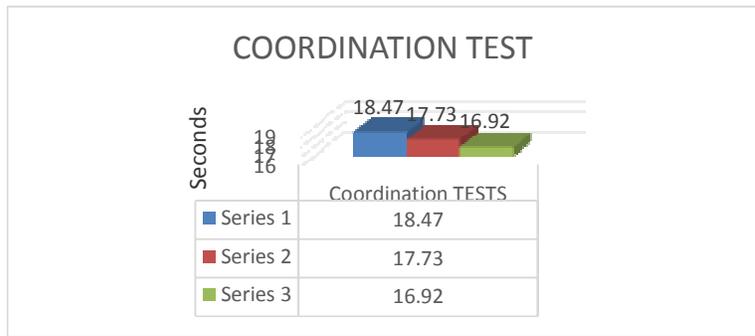


Figure-3



**Discussion**

In a study on the 16 students with 15 mean years was determined the aerobic power as between 49.4-60.4 kg.m/sec (Brown et al., 1986). The results had a study on female handball players and applied 8 weeks straining on experimental group. Analyzes showed that mean of first and last 20 meters shuttle run test of experimental group were  $3.99\pm 0.27$  and  $3.60\pm 0.23$  sec, respectively and 20 meters shuttle run test mean of either first and last tests of control group was  $4.04\pm 0.34$  sec. Physical training can cause significant changes in the parameters of body composition and it is important factor in the regulation and maintenance of body mass (Cvrino et al., 2002). Ceiling effects might explain our defeat to identify significant changes in physical self-perception among boys in the resistance training groups. The effects of exercise on self-concept are most likely to occur among participants with initially low levels of physical self-perception (Fox, 2000). The results have shown that there are significant increases in leg strength after 8 weeks of strength training in female and male group, but no improvements in vertical jump were observed (Faigenbaum et al., 1999). A study by Weltmann et al. (in 1986) showed that the group who completed a strength training intervention for 14 weeks had significantly better results in the vertical jump than the control group. Studies of adolescents have also shown positive performance changes in response to long-term strength training interventions (Keiner et al., 2012).

### **Conclusions**

In this study after 14 weeks training performance was shown increasing and development for the anaerobic power and standing long jump. Training should be done with more exact and with a true plan. By this way, this training can be have positive and significant effects on the athletics. For this study is suggested that is evaluated the different time and strength of the training for the different persons.

Practical applications: Training and exercise improved the anaerobic power players and standing long jumping but the coordination tests had negative and significant results after training period. The movement types were very important to effect on the studied parameters

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